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TODAY!**

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iPhone 8 Plus**



The **must-read**
verdict on **Apple
Watch Series 3**



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iPAD

DECEMBER 2017 NO.135

HIGH SIERRA

50

ESSENTIAL TIPS

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quick-start guide



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Future



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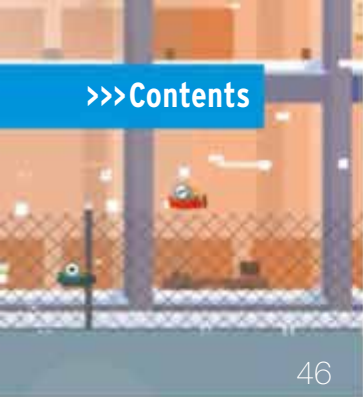
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A MOUNTAIN OF CHANGES



APPLE'S ROUND OF operating system updates for 2017 is complete, and this issue's cover feature will help you to discover many great additions in the last of them to arrive: High Sierra. If you haven't installed it already, and were to read Apple's web page about it, you might not think there's much reason to bother – but I urge you to read our feature and reconsider.

Do you think you already know all that High Sierra has to offer? At WWDC in June, Apple mostly talked about underlying technology changes, which is understandable for a keynote address

that's as much about rallying developers behind those moves as it's about exciting Apple fans with new features. What has surprised me since High Sierra became available on the Mac App Store is that interesting enhancements, such as the ability to copy and paste files using Universal Clipboard, aren't mentioned on Apple's web page that markets the system update. Granted, that one isn't really a groundbreaking feature, but it's a practical enhancement that some of you will at least make good use of. You'll find a lot more detail about High Sierra in this issue's cover feature. Let us know if you've discovered something else in the system that you think other Apple fans should know about.

You may have a very good reason not to upgrade to High Sierra just yet, though. The common trouble for any operating system upgrade is incompatibility with apps and devices. Perhaps you're just cautious until a few minor updates have been released. Apple has already issued a few of those for High Sierra – and iOS 11, too – fixing some of the big outstanding issues, and two embarrassing oversights that managed to survive the developer and public beta programs over the summer. You can learn more about these in this issue's Start section.

If you're ever unsure about installing a macOS update, bear in mind that a complete Time Machine backup enables restoration of your Mac to an earlier state – even to an older OS.

ALAN STONEBRIDGE, Editor

Twitter: @maclife

>>> THE TEAM



Matt Smith

Art Editor

Matt has enjoyed season 2 of *Preacher* on Amazon. Now for new *Mr Robot*!



Rob Mead-Green

Operations Editor

Rob was surprised to find that one of his favorite iOS 11 features is Files.



David Chartier

Contributor

David is enjoying people's renewed enthusiasm for the iPad throughout 2017.

LETTER OF THE MONTH



I very much miss being able to see all the Home screens and apps on my iPhone while in iTunes. It used to be easy to manipulate apps, create folders, and delete items en masse. That's not possible in iTunes 12.7.

Now I have to go to the App Store on iOS and get apps individually, and moving items between Home screens is now much more difficult and tedious. I consider this "update" a step backward, and I'd really like to see these capabilities restored. **DAVID RICKEY**

Apple has put itself between a rock and a hard place with iTunes. Some people want the app to focus on its media library and player features; adding other stuff on top has caused navigation issues for years. Even so, we see why removing iOS app-related functions is aggravating.

Apple started edging toward this when apps downloaded directly to iOS devices began to be delivered in a tailored form for the specific hardware, and so it stopped including them in device backups to iTunes. We didn't anticipate the latest changes happening so abruptly, though. Drag and drop in iOS 11 enables you to pick up and move multiple app icons, which helps a little, but even that can be a little uncomfortable.

Still missing in iOS 11

In response to your newsletter question about what we would like to see in future Apple OSes: I would like to see the email address included in the email's "Inbox" title when you have more than one email address. It would make life easier when changing from one to the other. In fact it would be beneficial to have the email address included for Sent, Outbox, and Trash too. **CHRISTIAN PETERSEN**

If we follow your meaning, that is possible. Go to Settings > Accounts & Passwords, tap an account whose name you want to change. If it's a non-iCloud account (or a secondary iCloud account), then tap Account on the next page, you'll be able to enter a name that makes

sense next to Description.

That is then used as the inbox name in the top level of Mail.

At that level, tap Edit, then Add Mailbox to specify the mailboxes you want to see there. When you tap Done on that page, the account descriptions you entered earlier will be shown below the mailboxes you just added.

Karaoke in limbo

Do you remember your article on the 10 best karaoke apps, in which Karaoke Anywhere HD was highly praised? It's worth noting that this app no longer works on iOS 11, and nobody at the developer has responded to attempts at contact. I guess the company is closed. A sad update as the app was simply the best. **DAVE GOSLEY**



Even old apps, such as Karaoke Anywhere, are getting iOS 11 updates.

We have good news: Just days before this issue wrapped up, JoltSoft released the first update to Karaoke Anywhere in four years. It's not a huge update in terms of version number, going from 6.0.4 to 6.0.5, but the two items in its release notes are welcome: the app now works with iOS 11, and there are no more ads.

Future product lust

Personally, I look forward to an Apple Watch that, once SIM data is transferred, never needs an iPhone, just the SIM information from any phone. In other words, a basic mobile phone inside a watch. This would be a "game changer." Which company will be the first to do this? **BERNARD MCCANN**

We'd like that too, Bernard, especially given praise of Watch Series 3's call quality. It would be great to only need AirPods and a Watch. Battery life is likely to be the obstacle for some time. Apple's control of its A-series chip designs arguably gives it an edge in optimization, but we're not expecting a unified device with all-day battery life soon.



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Uber removes tool that could record your iPhone's screen

Apple-granted "entitlement" raises questions over Cupertino's commitment to privacy

BY ROB MEAD-GREEN

RIDE-HAILING SERVICE Uber has removed a set of Apple-granted developer tools from the latest version of its iOS app, which potentially enabled it to record any user's iPhone screen – including passwords and other personal data.

Will Strafach, security researcher and CEO at Sudo Security Group made the discovery in October, arguing it was rare for Apple to give what he called "a private sensitive entitlement" to developers – with no other similar examples currently known to exist in the App Store.

Uber said in a statement that it was granted the entitlement by Apple to enable the Uber app for Apple Watch to display maps correctly. The company told tech site Gizmodo: "It was used for an older version of the Apple Watch app, specifically to run the heavy lifting

of rendering apps on your phone and then sending the rendering to the Apple Watch app." The company said the dependency had since been removed thanks to improvements in "Apple's OS" (presumably watchOS) and that it has now removed the application programming interface (API) from its iOS codebase.

Strafach said the entitlement first appeared in Uber's app in 2015, around the March launch of Apple Watch, when Apple demonstrated the ride-hailing abilities of the Watch version during a keynote. It's believed that since developers were given just four months to get their apps ready for the launch of the Watch, Uber was given special access to the API.

One concerning aspect of the entitlement is that it could have enabled Uber to record almost



Uber's app was granted an unusual level of access to your screen by Apple.

anything on your iPhone screen, whether the Uber app was running or not. Security researcher Luca Todesco told Gizmodo: "Essentially it gives you full control over the frame buffer, which contains the colors of each pixel on your screen. So they can potentially draw or record the screen."

There is no evidence to suggest that Uber ever used the entitlement for this purpose, but it does raise

questions about Apple's granting of the entitlement to Uber, a company that's been mired in controversy.

Last August, Uber pulled a feature from its iPhone app that enabled it to track your location from the time you requested a ride up until five minutes after your trip ended, even when the app was running in the background. Uber said the app's post-ride, five-minute tracking was never activated on iPhone, although when evidence emerged that in some cases the app was able to track a device for weeks after a trip, Uber blamed the way Apple had applied extensions in iOS's Maps app.

It's not the first time Uber has run into trouble. Early in 2015, Tim Cook reportedly threatened to have Uber's app removed from the App Store after Apple learned that it was capturing the unique identifier (UUID) of iPhones even after its app was removed and the device wiped – something that developers aren't allowed to do. Apple engineers also discovered that Uber had tried to hide its activities by placing a geofence around Cupertino. “Uber would then obfuscate its code from people within that geofenced area,” the New York Times reported last April, “essentially drawing a digital lasso around those who it wanted to keep in the dark.”

While Apple had stopped Uber from identifying devices using its app in 2015 – something Uber said it did to avoid fraud – it's now offering a comparable service in iOS and tvOS. Called DeviceCheck, it enables developers to assign two bits of data and a timestamp to a device when an app is installed, with the code passed on to Apple. The aim is to crack down on suspicious activity, such as reinstalling a trial app to avoid paying for the full version, while also protecting your privacy by not including any identifying data.

Bye bye, Bing

Google becomes Apple's search engine of choice in the latest change to Siri

BY ROB MEAD-GREEN

APPLE HAS MADE a subtle yet important change to the way that Siri and Search on iOS and Spotlight on macOS return web search results. From now on the top hits will always come from the new default, Google – not Microsoft's Bing search engine as was previously the case.

Apple says this is to maintain consistency with the default search engine in Safari on both platforms, but the reason is likely to be more prosaic than that: it's estimated by analysts that Apple will be paid \$3 billion by Google this year to be the default search engine on both iOS and Mac – a deal that goes back at least a decade.

In practice, web search results including links and videos will return results from Google, with the company's YouTube video sharing web site being, somewhat controversially, prioritized over the more generic Google video search. However, Bing still appears to be the default when searching for images on the web in most cases – at least for now.

You can, of course change the default search engine in Safari on both platforms if you want, with DuckDuckGo, Bing, and

Yahoo remaining as options. However, changing the default search engine this way does not alter the results that Siri and Search in iOS and Spotlight in macOS return – you still end up with links supplied by Google whichever option you choose.



Siri web searches now return results from Google, rather than Bing.

Watch to check blood pressure

Apple files patent for technology that can detect heart defects and other related issues

BY ROB MEAD-GREEN

APPLE WATCH may one day include technology that will enable it to measure your blood pressure and detect heart defects, according to a patent filed with the US Patent & Trade Office (USPTO).

Normally when having your blood pressure measured, you or your doctor use a gauge that inflates a cuff to temporarily cut off circulation through an artery, before monitoring the rate at which blood flow resumes when the cuff is slowly deflated. The technology described by Apple's patent does away with that.

The patent for a "Wrist Worn Accelerometer for Pulse Transmit Time (PTT) Measurements of Blood Pressure" describes how a device, such as Apple Watch, could be fitted with an accelerometer, a photoplethysmogram (PPG), or a

Apple Watch is already popular for monitoring fitness.



Apple Watch already measures your pulse.

pulse pressure sensor to detect that blood flow, and so enable you and your physician to routinely monitor your heart using data gathered by the device. To take your blood pressure you'll simply hold a Watch containing the accelerometer against your chest to detect your heartbeat, and the existing heart rate sensor in the Watch will detect the pulse in your wrist. The difference between the two – the Pulse Transmit Time (PTT) – is then used to calculate your blood pressure and whether you have, or are at risk of, developing heart problems now or in the future.

The patent application has been made possible thanks to the Food and Drug Administration (FDA), which is working on a pilot program with Apple and nine other tech companies to fast-track mobile innovations like this one.

Interestingly, the illustrations that accompany Apple's patent filing show the accelerometer and the PPG sensor as being located in the Watch's strap rather than the main housing, which points to all kinds of exciting possibilities for smart straps making Apple Watch even more capable than it is now.



>THE SHIFT

The iPad is enjoying a second coming, says **DAVID CHARTIER**, as developers and users find exciting new ways to make the most of it



HOW DO YOU tell when a product is having its second coming, has got “a new pair of shoes,” or has caught its second wind? With this year’s iPad Pro refresh, the iPad-centric iOS 11, and broader developer support than ever, it feels like now is a new time for the iPad to shine.

Looking back on things, the iPad’s launch and steady evolution were crafted in classic, standard company fashion. At first, Apple and much of the industry struggled to give the iPad a concrete place alongside our existing devices, but it was pitched with specific uses in mind: browsing the web, ebooks, games, watching videos, and so on.

The iPad’s abilities and appeal have systematically expanded over the years. Apple added powerful things like flexible multitasking, inter-app data sharing, a new kind of document system, and much more, all while keeping it a simple, supremely portable computer that can serve most people’s needs. It probably helps that the iPad surpassed the Mac’s all-time sales somewhere around 2015.

2017 has been good to the iPad so far. Years of strong, yet slowly declining sales turned around and saw 15 percent growth – to 11.4 million iPads in Q3 – over the same time last year. Apple released its most affordable full-size iPad yet,

starting at just \$329. The Pro got a significant refresh in power and storage, a new size (the 9.7-inch is now a 10.5-inch), and feature parity across both sizes.

In recent years, I’ve seen more people asking how to do this and that with an iPad

The iPad’s third-party apps are blossoming too. Microsoft Office is more powerful and feature-rich, and Adobe went on a national tour to promote its mobile apps for professionals and hobbyists.

As for indie developers, the iPad has flourished for nearly every industry and niche, including writing, scientific research, the arts, business, many areas of design, and even coding to an extent. Great recent arrivals include: Procreate (powerful drawing), Kaleidoscope (a long-time Mac staple for comparing text files and images), major upgrades to The Omni Group’s suite of productivity apps, Pixaki (full-featured pixel art and animation), and Pythonista 3 (coding and scripting in Python), and MindNode 4 (brainstorming and mind mapping).

In recent years, I’ve seen more articles, posts in communities like Reddit, and questions through my own site about how to do this and that with an iPad. Some people are replacing a laptop, for others it’s their first computer – after an iPhone, of course. It certainly isn’t for everyone, but the point is that it seems to be in the air.

With growing support, fresh new possibilities in iOS 11, and an upswing in sales, I think the iPad is in a good position for the next few years. It brings great advantages for many people and uses, and I’m a big believer in the right tool for the job. Now, maybe the iPad is the right tool for more jobs than ever.

Kaleidoscope compares files – on a device that didn’t used to expose its file system.



>>> David Chartier is a content strategist and writer with vast experience analyzing the tech world. He runs the website [Finer Things in Tech \(finerthings.in\)](http://finerthings.in) and hosts its podcast, *The Finer Things In*.

Security concerns with macOS High Sierra

Apple patches vulnerabilities in keychain and encrypted APFS volumes

BY ROB MEAD-GREEN

TWO SURPRISING SECURITY

lapses have emerged in macOS High Sierra, with one potentially affecting older versions of macOS and OS X as well.

The first vulnerability, affecting the keychain, was discovered by Patrick Wardle, formerly of the NSA and now director of research at Synack, while trying out a beta build of macOS High Sierra. Using a proof-of-concept program he developed, called `keychainStealer`, Wardle was able to display plain text passwords stored in keychain for Bank of America, Facebook, and Twitter. Wardle posted a video of the flaw on Vimeo (bit.ly/macostealer) and notified Apple about the concern.

Worryingly, Wardle said it would be relatively easy to install a program like `keychainStealer`. “Most attacks we see today involve social engineering and seem to be

successful targeting Mac users,” Wardle told Forbes. “I’m not going to say the [keychain] exploit is elegant – but it does the job, doesn’t require root [access] and is 100 percent successful.”

Wardle said the exploit would work on any Mac where someone was already logged in, and that older versions of the system may also be affected.

Wardle published his findings on September 25, the same day macOS High Sierra was made available on the Mac App Store. Apple issued a patch for the vulnerability 10 days later, on October 5. It also patched another surprising error that affected encrypted Apple File System (APFS) volumes.

Discovered by developer Matheus Mariano, the APFS bug displays in plain text the password you’ve used to encrypt a drive,

showing it in the password hint box right below the place where you’re meant to enter it – an incredible oversight by Apple’s engineers.

Using macOS’s Disk Utility, Mariano created an encrypted APFS volume, set a password and a hint for it, then unmounted the volume before remounting it again. When he clicked the “Show Hint” button, the password he had set appeared in plain text, rather than the hint he expected. Because the startup disk in Macs that have an internal SSD is automatically converted to APFS, this affects many modern MacBooks.

You can make sure you’re protected from both of these vulnerabilities by updating macOS High Sierra to the latest version via the Mac App Store. To find out more about the security content of Apple’s macOS High Sierra 10.13 Supplemental Update, point your browser at bit.ly/mlmhsupd.



Though the two High Sierra issues have serious implications, a fix is already available.

>>> Need help with your Apple gear?

Go to our redesigned Ask section (page 76), which is packed with solutions to common Mac and iOS problems, as well as links to important Apple Support articles that can help you even further in fixing issues.

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>GAME LOOP

BRIANNA WU explains why you might want to hold off upgrading to macOS High Sierra for a while if you play games



Cities: Skylines suffers glitches in High Sierra.

DEDICATED GAMERS AND game developers might want to hold off on upgrading to High Sierra for the time being. As macOS moves to the new Apple File System (APFS) and other new underlying tech, some software is reportedly breaking.

The announcement of APFS was very welcome news at WWDC 2016. After the San Bernardino terrorist attack, the FBI wanted Apple to engineer a backdoor into iOS for the government – a move that was widely critiqued across the political spectrum. It was suspected that Apple would respond by making its

devices and the data stored on them even more secure.

Protecting data is a big feature of APFS. The new file system provides a level of encryption so strong that Apple couldn't access your data even if ordered to by a court. It stores the data with built-in encryption, making the information meaningless to someone without a key to unlock

it. At the highest level of security, it supports multi-key encryption – making both the files and the metadata for the them impossible to read. APFS also introduces other optimizations for flash storage.

While the move to this new file system will be highly beneficial in the long run, it may be breaking games in the short term. Unity is one of the most popular game engines in the world, used in countless iOS and macOS games including Hearthstone, Lara Croft Go, and Firewatch. Reports are coming in that after upgrading to High Sierra, many Unity games are

becoming unplayable – including the popular Cities: Skylines.

The problems go beyond Unity. While engineers are still studying bug reports, early signs seem to suggest that Valve's Source engine is also negatively affected by High Sierra. Some of the best Mac games use it, including Portal, Team Fortress 2, and Counter-Strike.

Additionally, some of the tools used by game developers also seem to be affected. Illustrator is heavily used by many app developers to make iconography and interface elements. But, the most current version of it has issues when running on High Sierra. Another Adobe pro app, InDesign, was recently patched – but the stability of the Creative Cloud suite is such that you may want to stick with your old system for now.

These kinds of errors are unsurprising, given the ambitious



Mac Gamer HQ reports disabling the Brave New World and Gods & Kings add-ons fixes Civ V.

nature of changes in High Sierra, not least APFS. Adobe software is known for its use of anti-piracy measures. With Apple making changes to so much underlying tech, these kinds of problem may well have been inevitable.

There's good news for some Mac owners, though – that is, if you're

running a desktop Mac in which the startup disk is a plain hard drive or a Fusion Drive; with either of those kinds of storage, you'll be unaffected by issues that result from APFS. That's because High Sierra doesn't force those types of storage to switch to using the new file system. (Apple has said that an update to enable APFS on Fusion Drives will be introduced at a later date, though.)

However, if your Mac has a pure SSD as its internal startup disk, the macOS volume is automatically converted; you should steer clear of High Sierra until you know your essential apps will run. Almost all models of MacBook Pro, MacBook Air, and MacBook from the past five years have an SSD.

It's worth noting that the scope of these issues is unusual for a macOS release. In general, you should aggressively update your Mac and iOS devices. Apple is good about patching security holes in its products, but such safeguards can't work if you don't install them. My guess is we'll see issues with APFS and graphical glitches addressed within a few months.

There's good news if your Mac's startup disk is a plain hard drive or a Fusion Drive



Performance is said to degrade in games which use Valve's Source engine, such as Half-Life 2.

»» Brianna Wu is the head of development at Giant Spacekat, developer of Revolution 60 on iPhone and iPad, and is a regular speaker at industry events, as well as host on the podcasts Isometric and Rocket.



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ESSENTIAL TIPS FOR

HIGH SIERRA

Craig Grannell delves into High Sierra, revealing all the great new features that will improve your Mac experience



THERE ARE TWO sides to macOS High Sierra. Apple first talks about new technologies at the very heart of the system, which are designed to make your Mac more capable and reliable. They lay foundations for the future, and offer great potential – in some cases enabling entirely new apps to be created by brilliant developers – while making tasks you do already faster.

The other side to the new system is all about Apple refining existing features and apps. In some cases, these are small tweaks – the ability to pin a note in the Notes app, the means to compose Mail in Split View when in full-screen mode, and additions here and there in System Preferences. Even such relatively small changes can make a big difference if you

happen to use the improved apps or features every day.

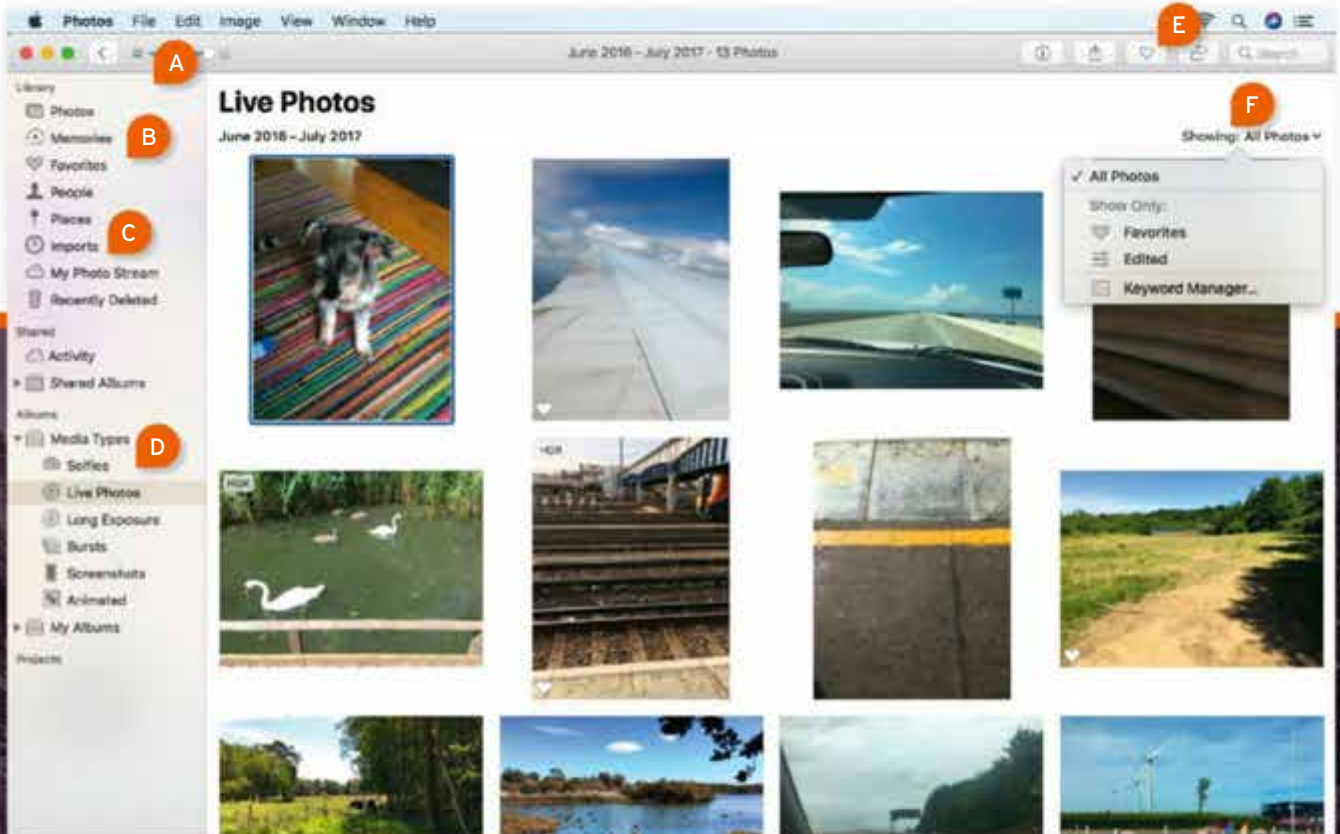
There are plenty of bigger changes, too. Safari now enables you to customize websites on an individual basis, rather than you adjusting the likes of Reader and page zoom levels as you browse. And the update to Photos almost makes it feel like a new app, due to a revamped interface, and a superb update to its editing tools. If you've ever wanted to do more with Live Photos, or get more precision control over color within your pictures, now you can.

Over the following pages, we highlight all the great things we've discovered in macOS High Sierra, including invaluable features and tweaks you may not know existed. Dig in, and you'll soon become a master of your Mac.



Master Photos in High Sierra

Explore improved library navigation, plus new and enhanced editing tools



EXPLAINED Photos' improved interface

A THE NEW SIDEBAR

In Sierra, Photos' sidebar was optional (View > Show Sidebar), but now it's a persistent part of the app's interface. If you want it visible in full-screen mode too, turn on View > Always Show Toolbar and Sidebar in Full Screen.

D NEW MEDIA TYPES

Under Albums in the sidebar you'll find a Media Types folder, which provides fast access to specific types of images and videos, such as screenshots, selfies, and long exposures created using that new Live Photos effect.

B YOUR LIBRARY

Key albums that were previously scattered around the sidebar are now housed under Library. Here you'll find the likes of Memories and Favorites, along with the Recently Deleted album that temporarily saves items.

E QUICKER EDITING

In macOS Sierra, you could rotate or favorite a selection of photos using menu commands; now there are buttons in the toolbar for these functions. The number of selected items is much clearer at the top right, too.

C REVAMPED IMPORTS

Select Imports for a chronological feed of photos and videos you've added to the app. Note these are grouped by import session rather than date, and so the likes of Photo Stream entries may show up individually.

F FILTER OPTIONS

With a category selected under Library, you'll see a Showing filter near the top right of the window, initially set to All Photos. Click it to limit the view to specific item types, or items that match user-defined keywords.

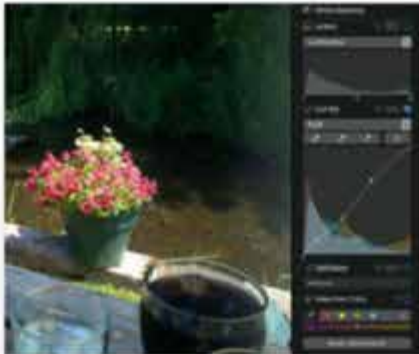
It's all in the edit

SILENCE LIVE PHOTOS

1 Double-click a Live Photo and click Edit to access the editing view. Here, you can use the two buttons at the bottom left of the window to, respectively, turn off the video part (the circular icon), or just mute its audio (the speaker icon).

TRIM LIVE PHOTOS

2 Below your Live Photo, you'll see a filmstrip similar to those used in video editing apps. Drag the end handles to trim a Live Photo's video part. You can also click a frame and then Make Key Photo to change what's shown when the pic is still.



Curves is a welcome new color-adjustment tool, allowing for automatic and manual changes.

BOUNCE AND LOOP

3 In the menu to the right of the trim controls, the default Live option plays the video from start to finish. Switch to Loop to endlessly repeat, or Bounce to animate back and forth. The third option fakes a long exposure, creating a dreamy effect from movement in the video.

MAKE ADJUSTMENTS FASTER

4 In macOS Sierra, clicking Adjust provided only a few options by default; you had to add more as you needed them. In macOS High Sierra, Adjust opens a scrolling pane of collapsible sections, all of which are immediately available, and this is far quicker and easier to use.

EXPLORE FILTERS

5 In all honesty, Photos isn't necessarily the best place to go if you're looking for the world's most amazing filters, but they've at least been shaken up a bit in macOS High Sierra. Chrome, Process, Transfer, and Instant have all gone, replaced by professional-looking filters named Vivid and Dramatic, both with Cool and Warm variants.

WORK WITH CURVES

6 The Curves editing tool is new to Photos and allows you to make powerful color adjustments. Click Auto and the app automatically improves your photo. You can also manually drag points on the curve, and add new ones by clicking on it. Try fashioning a subtle S shape to make the colors really pop.

Use other apps

One of the big changes to Photos is the way in which it interacts with other apps. Although Photos now has improved editing tools, they still fall short of what you get in the likes of Photoshop and Pixelmator. But now you can use the Image > Edit With menu - which also available in the Ctrl-click context menu - to send your image to a third-party editor.

Changes made externally should be saved back to your library. They can be reverted by going into Photos' editing mode and clicking Revert to Original. Test this with your preferred external editor on a copy first (Image > Duplicate), just in case.

HOW TO Use Selective Color in Photos



1 Adjust a hue

Open a photo with greenery and sky in Photo's editing mode. Click the triangle next to Selective Color, select the green channel, and drag the Hue slider all the way left.



2 Amend the range

Use the Range slider to tweak the breadth of the colors to which your adjustment is applied. Experiment with the Saturation slider to amend the adjustment's intensity.



3 Use a custom hue

If you want to alter a specific color, select it with the eyedropper tool, then adjust settings accordingly - we've made the sky in this photo look like it's from another planet.



Master Safari in High Sierra

Make every website look and work the way you want it to



EXPLAINED Browse around these improvements

A WEBSITE SETTINGS

On visiting a website, choose Safari > Settings for This Website. A pop-up menu will appear under the address bar, which gives you a number of display and behavior settings you can tweak, affecting only this site.

D AUTO-PLAY

By default, Safari stops all media with sound from playing, yet it allows that which does not have sound to automatically play. You can override this to allow all media to play, or you can go further and stop all distracting content from playing without your explicit permission.

B READER VIEW

Reader strips the cruft from pages (if they have enough text), leaving only the essential page content. Previously, you had to manually trigger it. Now, you can have it automatically activate on compatible web pages.

E PRIVACY PERMISSIONS

Some sites ask for permission to use your Mac's camera, microphone, or location. In each case, you can use the relevant pop-up menu in this sheet to decide whether you're happy to grant access (Allow) or not (Deny) to the site you're currently viewing.

C PAGE ZOOM

Safari has always enabled you to zoom the content of the current tab, but now you can set a zoom level on a per-site basis – ideal if you find a favorite site has text that's a bit too small for you to read comfortably.

F PREFERENCES

Safari's preferences have been updated to include these new site settings. In place of the Notifications tab there's now one named Websites, containing sections for everything we just mentioned. You can change website notifications settings here too.

Bend Safari to your liking



KNOW YOUR LOCATION

By default, Safari abbreviates the current page's address, and doesn't say where a link will take you. Choose View > Show Status Bar to have the destination of the link under the pointer shown at the bottom left of the window, and turn on "Show full website address" in Safari's Advanced preferences.



TAME NOTIFICATIONS

Some sites ask to send you notifications. Generally, avoid allowing this. If a site flings too many your way, disable them for it (or all sites) in Safari > Preferences > Websites > Notifications.



"Prevent cross-site tracking" is on by default and prevents "tailored" shop adverts appearing.



EDIT WEBSITE SETTINGS

In the Websites section of Safari's preferences, select one of the categories from the sidebar. You'll see settings for currently open websites, as well as closed yet already configured ones. The latter can be adjusted using the menus here, without you having to visit the websites in question.



SET GLOBAL DEFAULTS

At the bottom of each category in the Websites section, with the exception of Notifications, is a menu labeled "When visiting other websites." Use this to set a default for websites you haven't manually configured – for example, to have Reader activate by default on all sites, unless otherwise stated.



PREVENT TRACKING

In the Privacy section of Safari's preferences is the new "Prevent cross-site tracking" setting. Activated by default, it stops advertisers following you around the web, and should mean shop adverts no longer appear everywhere after you check out a product of interest.



USE EXTENSIONS

It's worth investigating the Extensions tab in Safari's preferences; though extensions aren't new, there are always new ones appearing in Apple's gallery (safari-extensions.apple.com) to add functionality you need, such as address shorteners, web clippers, and other search engines.

Configure Reader

The idea behind the Reader feature is to make web pages more readable. The view strips everything from a page, apart from the key text and images. If you find a site's design distracting, or the text is hard to read, activate Reader.

When Reader is active, click AA in the address bar to bring up options. The two buttons at the top adjust the text size, and the four colored discs enable you to switch themes. There are also eight fonts to choose from.

Be mindful that your display settings for Reader are applied to all pages on which you activate it – they can't be set on a per-site basis.

HOW TO Use the Develop menu



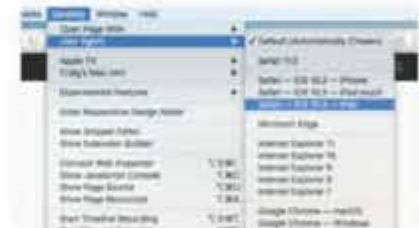
Make it visible

If a site says you need another browser to view it, choose Safari > Preferences > Advanced and put a check mark next to "Show Develop menu in menu bar."



Switch browsers

If you've installed another browser on your Mac, it'll be listed in Develop > Open Page With. Choose a browser from that menu to open the page you're viewing in it.



Spoof a browser

Go to Develop > User Agent to see browsers Safari can pretend to be. This menu is helpful when the mobile version of a site plays HTML5 video, but the desktop one demands Flash.



Drill down into System Preferences

Manage family accounts, share files using iCloud Drive, and much more

A FAMILY MEMBERS

Open System Preferences' iCloud pane and click Manage Family. In the Family Members tab, you can add up to five other members of your family to a sharing account. Once invitations have been accepted, everyone in the family will be able to share (most) purchased apps, games, books, and music.

B iCloud STORAGE

In the My Apps & Services tab, select iCloud Storage. In High Sierra, you can share a 200GB or 2TB plan with your entire family. This makes those tiers great value – one of them is likely to provide enough space for everyone's files and iOS device backups.

C LOCATION SHARING

Select Location Sharing in the My Apps & Services tab. You'll see that you no longer have to reach for your iOS device to manage which family members can check your location, as High Sierra enables that too.



D SHARE A FILE

Individual files, but sadly not whole folders, that are stored in iCloud Drive can be shared with other people, and not just in the sense of sending them a copy. Go to iCloud Drive, Ctrl-click a file, and pick Share > Add People.

In the sheet that opens, you can enable others to access and even edit the file. Invitations can be sent by email, iMessage, AirDrop, or social media, or you can copy a link to paste elsewhere. We've wanted this back since MobileMe's discontinuation!

HOW TO Adjust your desktop background



1 Find your desktops

When you log in to High Sierra, you'll see it has a new desktop background. To change it, go to System Preferences > Desktop & Screen Saver and stay on the Desktop tab.



2 Change background

To use a different background, click on its thumbnail here. Or, you can choose a solid color, drag and drop an image from Finder on the top-left spot, or use your own picture from Photos.



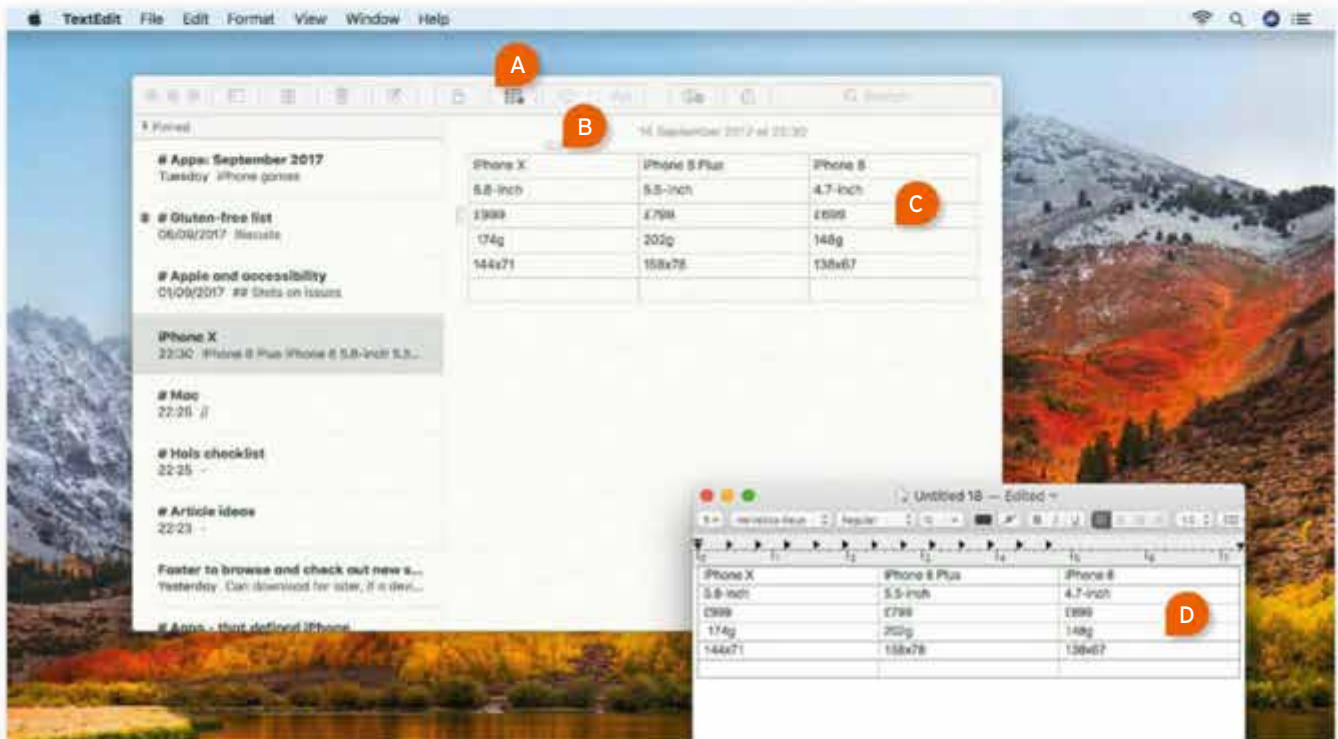
3 Change it regularly

Put a check mark in both the "Change picture" and "Random order" boxes at the bottom of the window to have the background change itself, or when you log in to or wake your Mac.



Nifty little updates in the Notes app

An important creative feature and a practical improvement come to Notes



Perform actions on notes

In Sierra, you could swipe two fingers across a note in the list to reveal a delete button (and continue swiping to delete the note). In High Sierra, the leftwards swipe still brings up the red delete button, yet it's joined by a grey lock button. Locking a note stops it being edited. This used to require choosing a menu command.

New in High Sierra is the ability to pin a note to the top of the list. With the pointer over a note there, swipe two fingers right a little way on your trackpad, or one on Magic Mouse, then keep swiping or click the Pin button. Or, choose File > Pin Note, or Ctrl-click a note. If you do this a lot, set a key combo in ⌘ > System Prefs > Keyboard > Shortcuts > App Shortcuts: click +, select Notes as the app, set "Pin Note" (without quotes) as the title, and set a key combo below.

EXPLAINED Tables in Notes

A NOTES TABLES

Click the Table button in Notes' toolbar, or choose Format > Table, and a table will be added to your note at the insertion point's current location. You can add multiple tables to a single note – you aren't limited to one.

C COLUMNS AND ROWS

Columns and rows in Notes can be rearranged. Click in a cell in the one to move, then drag from the relevant column or row widget. Be aware that you can only move columns or rows to a different point within the same table.

B TABLE FORMATTING

Tables in Notes start off two cells tall and two cells wide. To change the setup, Ctrl-click the column or row widget (three dots), and then use the Add and Delete options accordingly. Note you don't get headers – just standard cells.

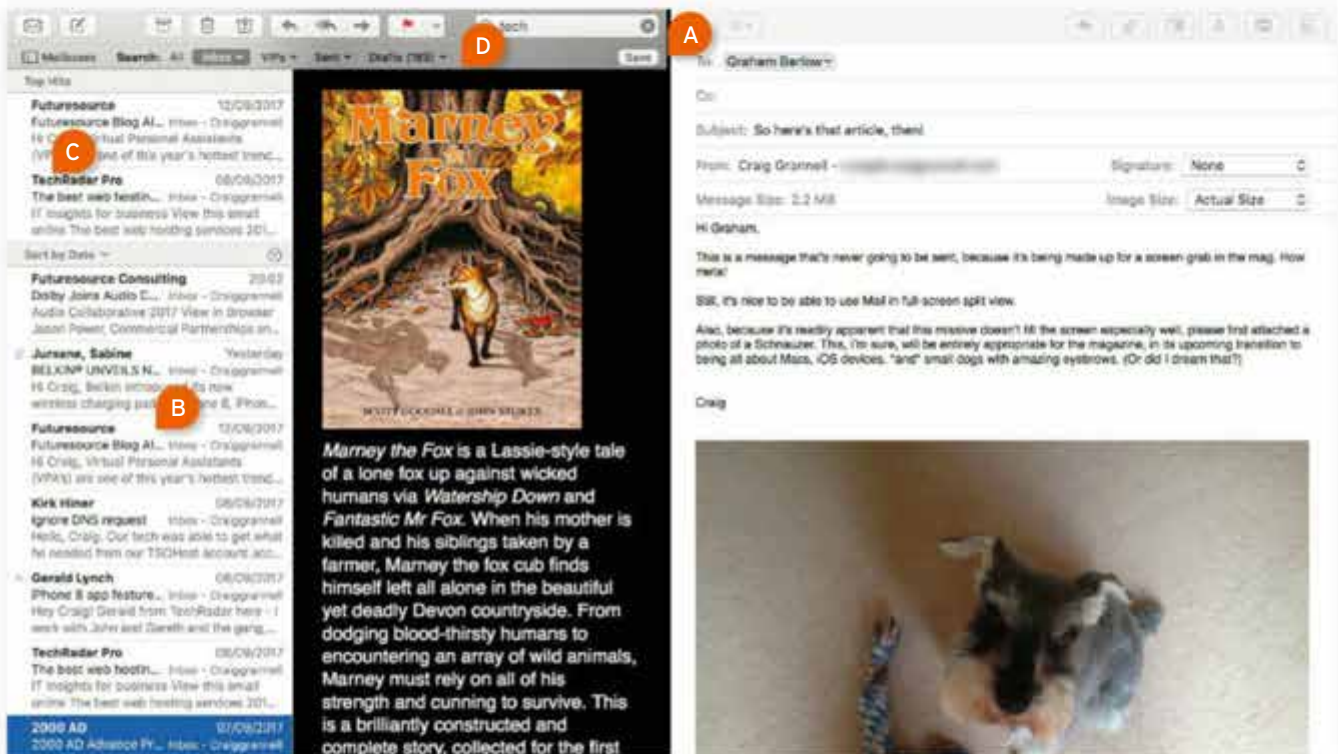
D COPYING TABLES

Copying and pasting Notes' tables into other apps isn't entirely intuitive, and results can vary across apps. The easy way is to click in a cell, press Cmd+A twice (once if the cell is empty) to select the table, then copy and paste.



Master the handy changes in Mail

Don't miss Mail's trio of new features – and old two time-saving classics



HOW TO Clear comms

A SPLIT VIEW

In macOS Sierra, Mail in full-screen mode wouldn't easily let you compose an email and refer back to your inbox. High Sierra instead utilizes its own version of Split View, opening a tabbed compose area on its right-hand side.

C TOP HITS

Search in Mail is now faster, but also, more importantly, a bit smarter. The most relevant messages Mail finds are placed at the top of the list, under "Top Hits." And the more you search, the smarter this new system gets.

B SPACE SAVER

This improvement isn't necessarily easy to see, but if your Mac's startup disk is an SSD, it'll use a new filing system, and changes to how it stores files mean that if you have many attachments, say, High Sierra might save you lots of space.

D INBOX SHORTCUTS

Just like Safari, Mail has a shortcuts bar (View > Favorites Bar), to which you can drag often-used mailboxes. Press Cmd and a number (1 to 9) to open a folder (1 being the leftmost one), or Ctrl+Cmd and a number to move what's selected.

Create Smart Mailboxes

Smart Mailboxes are mailboxes for which you define specific criteria, and which Mail fills with matching messages without moving them from their original location. Essentially, they're saved searches you only need to set up once. Rules for inclusion can be time-based; you might make a Smart Mailbox for messages received in the last week, or for older, unattended inbox items.

The VIPs feature is helpful for identifying messages from important people. However, try combining "Sender is VIP" and "Message is unread" rules. That will give you a smart mailbox with messages you haven't even looked at from senders you consider to be vital contacts. Smart Mailboxes, like regular ones, can be added to the Favorites bar for quick access – drag one from the sidebar onto it.



Shine a light on search results with Spotlight

Quickly find vital info on the internet, as well as documents on your Mac

A SPOTLIGHT CATEGORIES

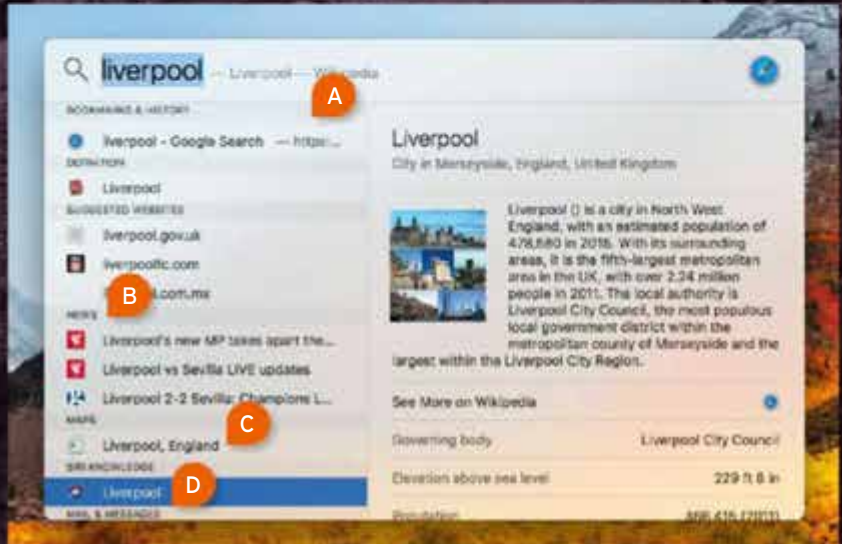
Search results in Spotlight are a mix of content from the internet, and whatever the search engine finds on your Mac's internal drive, external storage, and iCloud Drive. If you don't find certain categories useful, you can disable them in the Spotlight pane within System Preferences.

B NEWS SOURCES

It's not going to replace a newspaper, but Spotlight now includes a news section for articles related to your search term. You get a synopsis of each article, and a link to the full version online. It works pretty well for getting the latest on sports teams.

C LOCATION MAPS

You can, of course, use Maps (or visit Google Maps in Safari) to find out where a place is. But type a location into Spotlight and it'll bring up a small map that gives you a basic overview of that location, which includes photos and further information.



D SIRI KNOWLEDGE

Under the rather vague heading of Siri Knowledge, you'll find what amounts to an expanded flash card about a given subject or term. Imagery, info, and statistics are mostly pulled from Wikipedia, but you also

sometimes get links to other sites and the odd map – and it may dig up something surprisingly useful. If you want to learn more about the subject matter, click on the “See more” option to open the complete article in your browser.

HOW TO Find more stuff using Spotlight



1 Get flight info

Type a flight number into Spotlight and one or more matching flights will be returned. Select one and its details will appear on the right – make sure you scroll to see everything!



2 View sports results

Sports fans are increasingly catered for in Spotlight. Type in a major team's name and you'll see a list of its recent results and a schedule for its upcoming games.



3 Time-based search

Although Spotlight is not a natural-language search tool, it can interpret time-based constraints that you add to searches. For example, try “documents opened last week.”



Universal Clipboard, FaceTime & Siri

Small but helpful enhancements you can't afford to miss

COPY AND PASTE

Universal Clipboard is part of the Continuity features that are designed to make it easier for you to work with multiple Apple devices. With two Macs signed in to the same iCloud account, which have Bluetooth and Wi-Fi turned on, and Handoff enabled in System Preferences' General pane, you can copy and paste text, images, and videos between them.

High Sierra takes this up a notch with the ability to copy and paste files. Simply use the regular **Cmd+C** and **Cmd+V** shortcuts in Finder. Devices that support Continuity are listed at bit.ly/mlcontin.

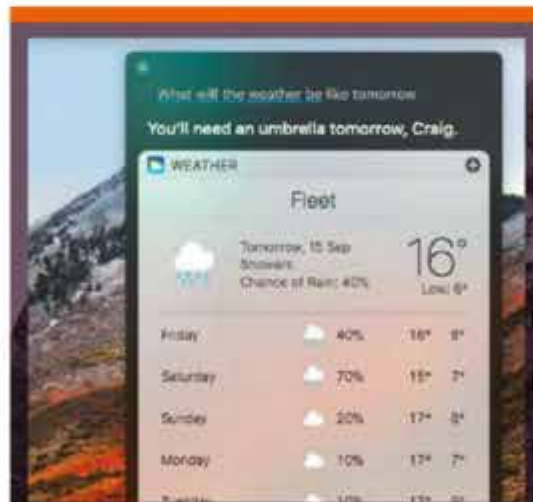


Using Universal Clipboard in this way is less hassle than AirDrop or file sharing, but if it still seems like more work than is necessary, you can put your Desktop and Documents folders in iCloud to efficiently share files among devices, including those on Sierra or iOS 10 – see bit.ly/mlsdskdocs.

FACETIME PHOTOS

There were already various ways to save snippets of FaceTime conversations on your Mac, but now there's an official method provided by Apple. As you're chatting with someone, you can click a button to capture a special moment and save it as a Live Photo, which includes a short amount of video from before and after the still image. It'll be added to your library in the Photos app. The other person is immediately notified that a photo was taken, so it's all above board.

If you're not keen on people being able to take such photos, you can disable this capability for your FaceTime conversations. You can find out more about this and how to protect your privacy in the "Live Photos in FaceTime" tutorial later in this issue.



SMARTER SIRI

Apple is rather proud of Siri's voice revamp in macOS High Sierra. Although the virtual assistant hasn't quite clambered out of the uncanny valley, Siri now sounds more natural and expressive.

In High Sierra, Siri's designs on being your personal DJ go up another notch. Already, you could ask it to "play some music" or to start playing something by a specific artist. Now it can respond to moods and make recommendations, provided that you have subscribed to Apple Music. (If not, Siri curtly notes "I can't play music for a particular mood.")

Siri has one other trick in macOS High Sierra: In System Preferences' Accessibility pane, select Siri (under the Interaction heading on the left), and put a check mark next to "Enable Type to Siri." Although this is primarily intended for people who can't speak to Siri, it's handy if you need to ask the assistant something, have headphones on, and are somewhere it's best to be quiet. You can also have Siri respond without talking to you by turning off voice feedback in its pane within System Preferences.

Underlying changes and what they mean to you

Learn about less visible yet valuable improvements in High Sierra



DOWN TO THE METAL

The original Metal application programming interface (API) was designed to unleash the power of your Mac's graphics processing unit, potentially making apps significantly more powerful. But Metal 2 further ups the ante, and Apple calls it a "graphics game changer."

The company says Metal 2 will make it possible for apps on macOS High Sierra to offer a superior visual experience, but also add capabilities such as machine learning, virtual

reality, and external GPUs for people working with high-end creative apps.

One app that looks like it'll fully harness this new power is the popular picture editor Pixelmator. It's set to go "pro" this fall, with a revamped single-window interface, and an enhanced Metal 2-powered painting engine. For more information about what looks like a good example of the benefits Metal 2 brings to apps, go to pixelmator.com/pro.

APFS

High Sierra follows iOS, tvOS, and watchOS in moving to Apple File System (APFS). Apple says this new file system is optimized for flash storage, with responsiveness and security in mind. Responsiveness benefits are clear when doing things like duplicating a bunch of files, or finding the size of folders. Tasks that may have taken a while to complete on older versions of macOS now often happen almost instantly.

That said, approach this change with caution to protect your data. Ensure you have a complete backup of your Mac – ideally one that can be used as a startup disk, made using the likes of SuperDuper – before upgrading, in case things go wrong.



64-BIT APPS



If you spend a lot of time using an iPhone or iPad, and you happen to have a large collection of apps and games, chances are iOS 11 thinned your collection somewhat. This was due to Apple ending support for 32-bit apps. Sadly, it's not viable for every developer to

update their apps, so some simply don't work on iOS 11.

It looks like a similar situation will affect the Mac at some point. At WWDC 2017, Apple said all apps and games submitted to the Mac App Store from January 2018 will have to be 64-bit. Updates to existing apps must comply by July.

To check your apps, go to + > About This Mac, click System Report, and select Applications in the sidebar. Click the "64-bit" header to sort the list so 32-bit apps are at the top, take notes, then contact relevant developers to see if they plan to introduce 64-bit versions for the next macOS.

GRAPPLING WITH

Apple has shelved a huge number of products over the years. Alex Blake remembers the most notable, and why they got canned

HITS &

MISSSES

APPLE MAY SEEM

to be a perennial winner, but it wasn't always so. The company behind the iPhone and iMac also made iTunes Ping and the infamous "hockey puck" mouse.

Yes, even Apple has made products no one wanted or worked poorly.

Of course, there are also many highly popular Apple products that are no longer with us today; even being a successful product loved by many may not be enough to save you from being phased out by Apple. From the iBook to iWeb, and the iPod to the eMac, good sales figures and loyal fan bases couldn't keep these products around forever.

Despite its successes, even Apple isn't immune to market pressures, failed launches, and low demand.

So let us take you on a trip down memory lane to revisit some of the interesting products, launches, and ideas that have been shown the door over the course of the company's storied history.

1989 Macintosh Portable



Launched in 1989, the Macintosh Portable was Apple's first stab at the nascent laptop market, and, unfortunately, it showed.

It had some pretty nifty features. With an impressive active matrix LCD display that was crisp and quick, and a clever trackball input device that could be switched to either side of the keyboard, it showed some touches of classic Apple flair.

Still, at 16 pounds it rather strained the definition of "portable." There was

also the issue of cost. At \$7,300 for a model equipped with a hard drive (about \$14,626 today), its princely price tag meant it wasn't an option for those with faint hearts or light wallets.

There was another serious issue, though. It could only run on mains power if a battery was installed; if the battery could no longer hold a charge, you couldn't run it on mains power at all. Consequently, it's nearly impossible to find a working, usable Macintosh Portable in the wild today.

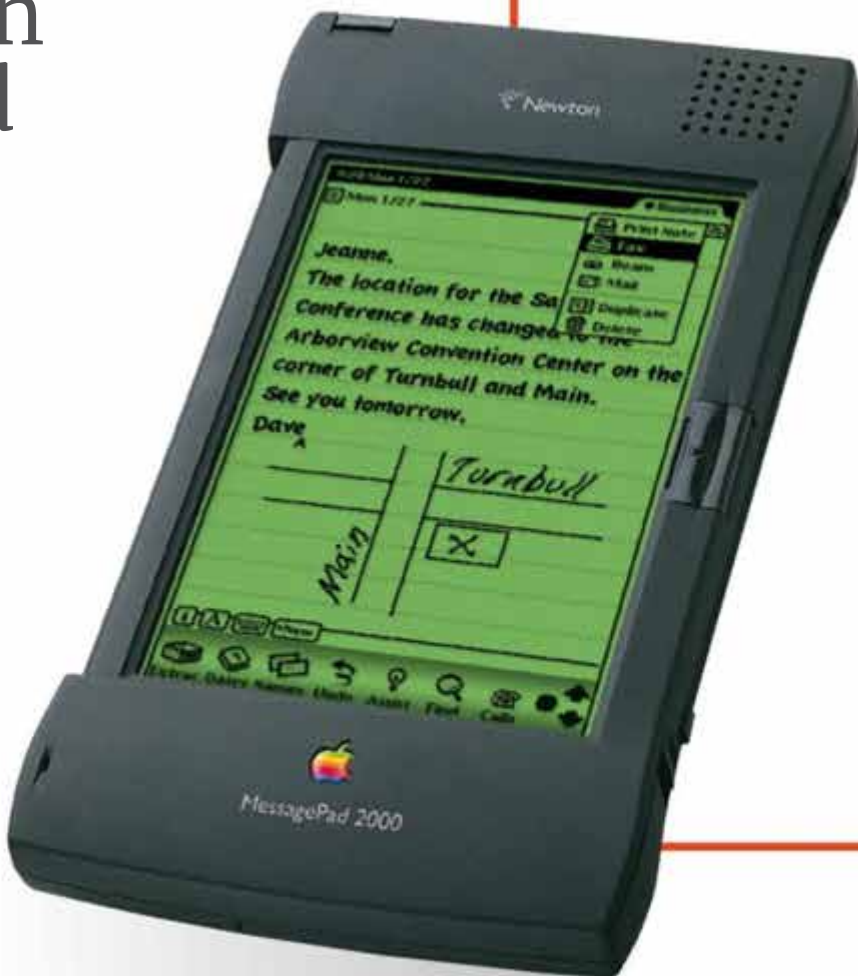
1993 Newton MessagePad

The Newton MessagePad, Apple's first experiment in tablet computing, is always high up on the list of Apple failures. While it's undoubtedly hated by many, it's still mourned by a few.

Its hottest feature at its 1993 launch was handwriting recognition. This could recognise cursive, printed, and mixed handwriting anywhere on the screen, which was much better than its rivals. It also turned out to be its worst feature. It simply didn't work very well, leading to it being skewered in reviews. The MessagePad could take months to learn your handwriting, and its AAA batteries drained in record time.

The software was vastly improved in the next model, and the Newton started to become the device it was always meant to be. Then, in 1997, Steve Jobs returned to Apple and killed the Newton.

Sadly, it was only just starting to gain traction and sales, and Apple needed money yesterday; the Newton had to be jettisoned. Nevertheless, this primitive tablet still has something of a cult following today.



1994 QuickTake

Apple isn't always early to market, but it was with the QuickTake, one of the first consumer digital cameras, which was launched in 1994. With \$12 billion spent annually on photography in the US at the time, it's easy to see why Apple was interested in venturing into the market.

The QuickTake could store eight photos at a resolution of 640x480 pixels (0.3 megapixels), 32 at 320x240, or a mix of both. It had a built-in flash function, but no way to zoom in or change the focus. You also couldn't preview or delete individual photos on the camera, only on your Mac.

Though an innovative device, the QuickTake was stymied by the Apple brand – consumers didn't associate it with photography, and similar cameras from established photography brands like Kodak, Fujifilm, and Nikon sold better.

Yet another Apple product to fall victim to Steve Jobs' blade on his Apple return in 1997, the QuickTake was on sale for a mere three years.

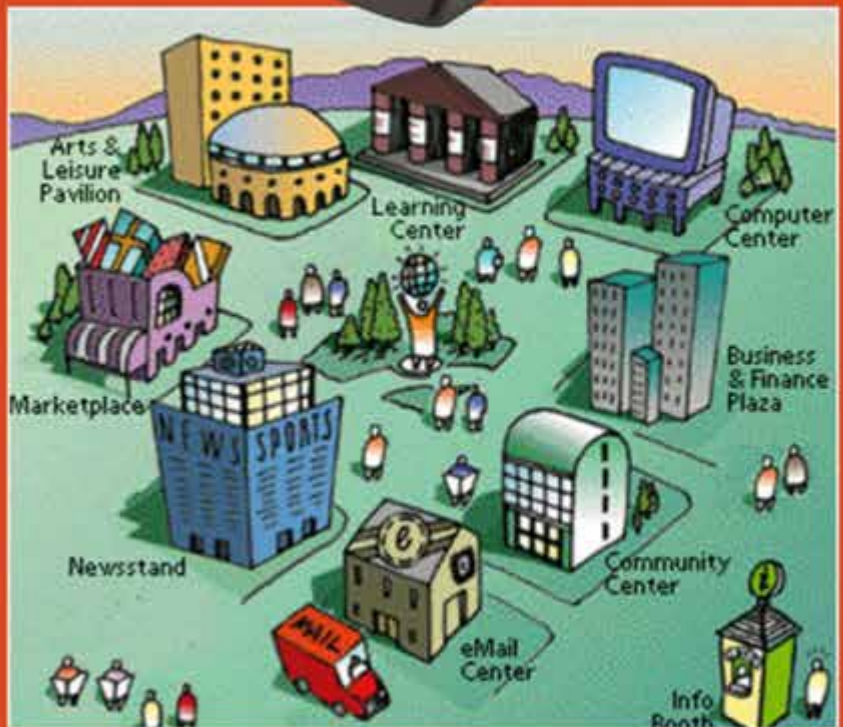


1994 eWorld

During the nascent era of the world wide web, eWorld was a study in what could have been. Released in 1994, it was a suite of web services such as email, forums, and a web browser, and its playful interface was designed to resemble a small city, with services housed in buildings. It was innovative, but never received the support it needed.

Priced at \$8.95 a month, plus \$7.95 an hour from 6am to 6pm and \$4.95 an hour at other times, it was expensive, and Apple never lowered the price to stoke up demand.

It was also launched at a bad time for Apple. The company was in dire financial straits, posting a \$68-million-dollar loss in a single quarter in 1995. CEO Michael Spindler decided there wasn't enough cash to market eWorld, so it shipped with new Macs, with just a pamphlet in the box and an icon on the desktop. With little backing from Apple, it couldn't compete with the behemoth that was AOL and was shut down in March 1996.





1996 Pippin

Another widely panned Apple product, the Pippin was a multimedia games console that was only on sale for about a year.

Apple never intended it to be a standalone product - rather, it was meant to be an open technology platform that other companies could license, use and alter, much like VHS.

However, only two companies - Bandai and Katz Media - took Apple up on the offer. Coupled with a lack of developers for the platform, it was an unattractive prospect for consumers.

There were many other problems. Bandai attempted to market their version of the Pippin as a computer, not a games console, which confused consumers. The Pippin struggled to compete with the Sega Saturn, the Nintendo 64, and the Sony PlayStation, which were already established in the games console space, and the Pippin's \$599 price - three times higher than the Nintendo 64's and double the PlayStation's - was way too high.

Like the Newton, the Pippin was axed in 1997 when Jobs returned to Apple.

1998 Apple USB Mouse

Every veteran Mac user's least favorite input device, the Apple USB Mouse takes pride of place in the pantheon of Apple mistakes and missteps.

Launched alongside the Bondi Blue iMac in 1998, the "hockey puck" mouse was a nightmare to use. Its small size and round shape made it hard to orient, and the sole button was difficult to find without stopping your work and looking down at the device. Its short cable was the icing on the cake.

So great was the user irritation with the USB Mouse that it spawned a third-party market for adaptors, cables, and even shells to change its shape to make it easier to use.

It was Apple's first USB mouse, meant to take people into the future of input devices, but instead drove many back to their old Apple Desktop Bus mice instead. Oops.

We have a blue Apple USB Mouse here at *MacLife* Towers, but only for posterity - we wouldn't dare use it.



1999 Clamshell iBook G3

While the titanium PowerBook G4 was all sleek, shiny, high-grade professionalism, the clamshell iBook G3 was fun, light and unpretentious – it was the iPhone 5c to the PowerBook's iPhone 5s.

It was launched in 1999, shortly after the striking iMac debuted, and its design inspiration is clear. Complete with bright colours and an eye-catching clamshell design, the iBook was aimed squarely at entry-level and education

customers. It was lower-specced than the PowerBook, but was the first mass market laptop to come with Wi-Fi.

The design rammed home the idea that having a computer could be cool, and needn't be restricted to the jet-set business class. It was something to be seen with, to be proud of.

Still, that didn't stop Apple from radically changing the design again in 2001, a move that began its focus on translucent white plastics.



2000 Power Mac G4 Cube

Rarely has Apple built a prettier Mac than the Power Mac G4 Cube. A sleek metal box that seemed to float inside a clear plastic casing, the Cube was a slice of pure Jony Ive aesthetics. It was somewhat reminiscent of the NeXTcube that Steve Jobs' NeXT computer company manufactured before being bought by Apple, only in a lighter, clearer form.

The only problem was that no one really wanted one. At \$1,799 it wasn't outrageously expensive, but it was

perceived as being poor value for money, starting at £200 more than the similarly equipped Power Mac G4.

Early models also had a tendency to exhibit small cracks in the case – hardly desirable in a Mac that's meant to encapsulate design perfection.

Price drops, upgraded graphics cards, and extra bundled software couldn't resurrect sales, and the Cube was discontinued in 2001. These days it lives on as an exhibit in New York's Museum of Modern Art.



2001 The iPod range

Given the recent demise of the iPod shuffle and nano, it seems right to include the beloved iPod family in this look at Apple's hits and misses.

The product that redefined the mobile music market, the iPod helped kill off portable CD players and costly, ugly flash-based music players. It was Apple's first big hit outside of its computer division, and paved the way for the iPhone. Later additions like the iPod nano and shuffle built on that success, and were cheaper options that solidified Apple's portable music dominance.

So what happened? Simply put, the iPhone happened. The iPod was ultimately cannibalised by another hit from Cupertino. The iPhone blended the functions of a phone and a music player, and much more – why carry both an iPod and a phone with you when you can just have one device that replaces both?

The iPod revolutionised digital music, but couldn't hold on to its crown. We still miss its clever scroll wheel.



2002 eMac

Apple cut its teeth in the education market, so it was a no-brainer to launch a Mac aimed solely at schools back in 2002.

Released as a cheaper alternative to the anglepoise-style iMac G4, the eMac - short for education Mac - actually stood up well to its more expensive cousin. The main difference was the CRT display housed in the eMac, which made its entry-level model much more affordable than the LCD-equipped iMac G4. That made it

popular, and it was offered for sale to retail customers just one month after launching.

However, Apple decided to restrict it to schools again in October 2005, without giving an explanation. The move may have been motivated by a desire to shift customers onto the recently launched Mac mini, while falling LCD display prices probably also played a role. Whatever the cause, the eMac was dropped just nine months later and replaced by an "education" version of the iMac Core Duo.

2001 Titanium PowerBook

The titanium version of the PowerBook G4 was a special design moment for Apple for a number of reasons.

It was Apple's first attempt at a titanium laptop. At the launch event in 2001, Steve Jobs was almost child-like in his excitement: it was made from titanium, like the spy planes, he enthused. It was only an inch thick (0.7 inches less than the PowerBook G3). Oh, and the Apple logo on the lid was flipped so that it was the "correct" way up when in use. This minimalist, metal-led design was the precursor to a number of other products, including the Power Mac G5, the MacBook Pro, and later iMacs.

Apple's fling with titanium was short-lived, however, and it introduced an aluminum PowerBook G4 in February 2003 - nine months after which the titanium model was phased out. But its radical reinterpretation of the laptop design aesthetic had a lasting influence that's still very much evident today.





2005 ROKR phone

Before the iPhone, there was the ROKR phone. An ill-fated collaboration between Apple and Motorola, the ROKR was intended to showcase the power of iTunes on a mobile phone back in 2005.

Unfortunately, it was a disaster. You'd think any phone that's the first to support iTunes would have a strong musical offering, but not the ROKR. Despite accommodating microSD cards up to 1GB in size, the firmware only enables it to hold a

maximum of 100 songs, which undermined its position as a music-oriented phone. This was compounded by slow transfer speeds (it didn't support USB 2.0) and a complete lack of wireless transfer capability.

The nail in the coffin was Apple's simultaneous announcement of the iPod nano, which Motorola CEO Ed Zander claimed undercut the ROKR. Apple learned its lesson, and launched the very first iPhone just two years later.

2006 iWeb

For a lot of Mac users, the iWeb app, which was part of the iLife suite, was their first introduction to web design.

In typical Apple fashion, it made easy something that people saw as alien and confusing. It let you choose the look of your website from a series of ready-made templates and then simply replace the placeholder text with your own. Adding images and videos was as straightforward as dragging and dropping them into place, and when you were ready for the world to see your design, all you had to do was click Publish and your website would go live on Apple's MobileMe platform.

It wasn't all smooth sailing though. Making iWeb sites compatible across a number of web browsers proved to be a headache. Meanwhile, Apple began focusing on uniting many of its software offerings into iCloud, and its rivals overtook iWeb. The app died when Apple closed MobileMe in 2012, but it lives on in the hearts of the many web designers who got their first taste with iWeb.



2010 iTunes Ping

Seeing the success of Facebook and Twitter, Apple tried to get in on the social network game with iTunes Ping in 2010. It let you follow musicians and connect with your friends, all within iTunes.

But the problems began almost from the start. During Ping's unveiling, Steve Jobs touted its Facebook integration. However, due to a payment dispute between the social network and Apple, Facebook blocked Ping integration almost immediately.

There was another big problem: spam. In a bizarre oversight, Apple neglected to put in a spam filtering system, allowing accounts to flood Ping's comment areas with dodgy links. Some artists even reported that fake accounts had been set up in their names.

While Ping was closed down in 2012, Apple hasn't given up on the idea. Apple Music's Connect feature – see the tutorial in this issue – is a spiritual successor to Ping, but also seems to be struggling to find its feet.



2008 MobileMe

After talking about iWeb, we feel MobileMe deserves a mention here too. It was the service that morphed into iCloud, but its launch in 2008 was a disaster.

Apple released a suite of internet services called iTools in 2000, and later updated it as .Mac in 2002. It was renamed MobileMe in 2008, but the switch was plagued with issues. Users couldn't sign in to the system, and some inadvertently got charged the subscription fee during their free trial. And although users could originally

sync their Microsoft Outlook accounts with MobileMe, this was then removed only a short while after launch, leaving many people in the lurch.

Even Steve Jobs admitted – albeit in an internal company email – that launching MobileMe at the same time as the iPhone 3G and the App Store was a mistake, saying it was done too hurriedly and was “not up to Apple's standards.” Its time was up – MobileMe lasted just three years, before being replaced by the massively more successful iCloud service in 2011.



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APP LIFE

THIS MONTH'S MOST INTERESTING IPHONE & IPAD APPS

AR MeasureKit

Measure anything with augmented reality

Free From Rinat Khanov, measurekit.com

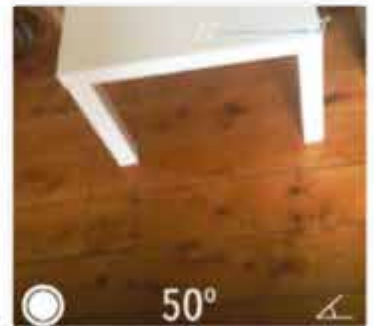
Made for iPhone, iPad **Needs** iOS 11.0 or later, A9 or later processor



ARKit is a new framework in iOS 11 that lays the groundwork for developers to include augmented reality (AR) features in their apps.

We've seen all sorts of Pokémon Go-style "cartoon characters in the coffee shop" demos, some of which are emerging as finished products. But AR has more practical uses, with a growing number of measuring tape apps rapidly filling the App Store.

Because they're built on the same ARKit features, these apps all work in similar ways, and AR MeasureKit exemplifies both the cleverness and the frustration of the technology. Open it and a live view from your camera fills the screen, which ARKit spends a few seconds analyzing. You need to wave your iPhone or iPad gently around, which is what you'd do naturally. It may then ask you to point at a surface, and by this it means a horizontal flat surface – for



Measuring this angle should be easy, but marking points in 3D confused us.

now, that's the only thing ARKit really understands.

AR MeasureKit's only free tool is the Ruler. In theory, you point your iPhone or iPad at whatever you want to measure, tap a start point and an end point, and the app draws a line between them in 3D space, instantly calculating its length.

APP TIPS

Getting the measure of AR MeasureKit



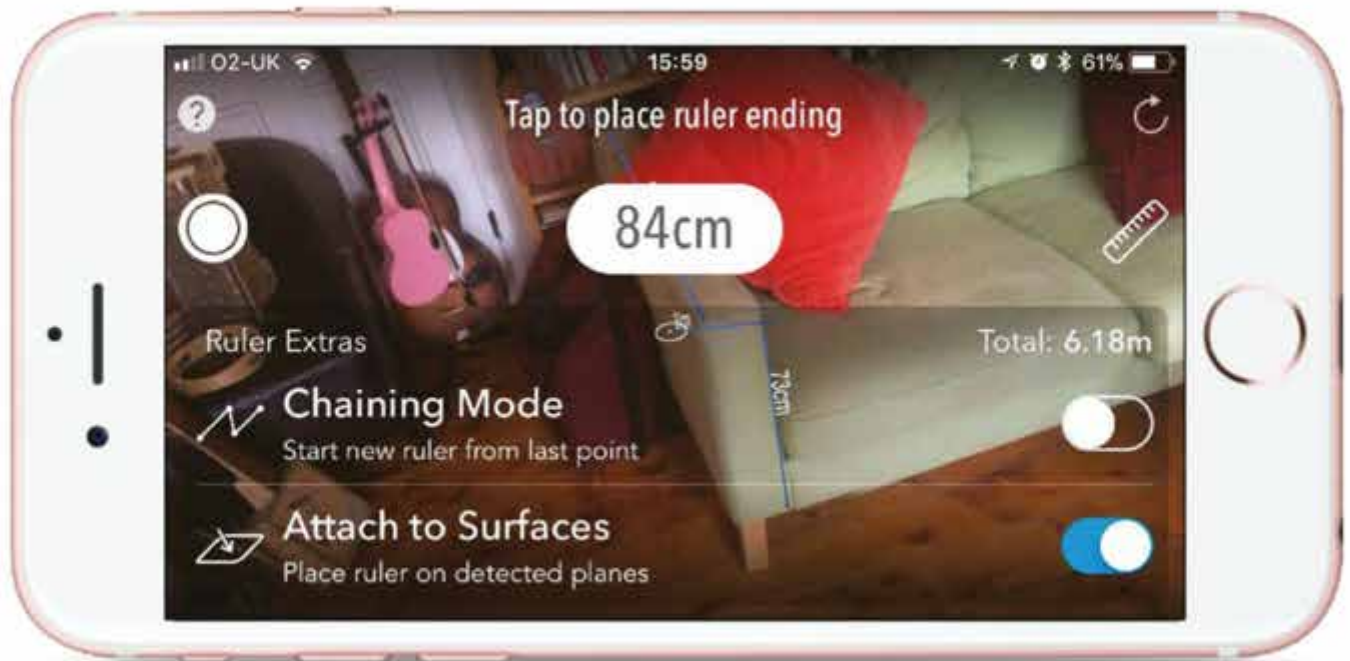
Is this table 10cm square, or is the Cube nearer? You can't really tell until AR MeasureKit locks on to a flat surface.



Turn on World Vision Visualization to see how ARKit identifies features of the real world. It's kind of... random.



Lines tend to drift, making it hard to be accurate, but you can tap points again to reposition them.



Sadly, the first catch is that you can't just tap anywhere on the screen; you have to get the point you want in the center. Then you need to move to the end point. However, given the system's limited accuracy, your start point begins to drift.

We tried out the app on an iPhone SE and an iPad Pro. If you thought wearing a VR helmet looked awkward, just wait until you try to measure a sofa with an iPad. The slightest movement jolts your center point off target, and it's no good using two hands to steady the screen, because you'll need one free to tap it. The iPhone was easier to wield, and the SE's older hardware coped fine.

Under ideal conditions our measurements were about right – but they can be wildly wrong. If you were trying to measure something, how would you know? The way the lines drifted out of perspective as we moved made us wonder if ARKit truly understood

where they lay in 3D space. This was also the Angle tool's downfall, which couldn't even reliably handle the 90-degree corners of a table.

We liked the tool that measures someone's height. The developer suggests using this to record a child's growth. But everyone knows roughly how tall they are; you measure to find out exactly. That's what ARKit seems unable to do.

THE BOTTOM LINE. AR is going to be huge, but apps like this show it's more impressive than practical. **ADAM BANKS**

When it works, the ruler is amazing and fairly accurate.

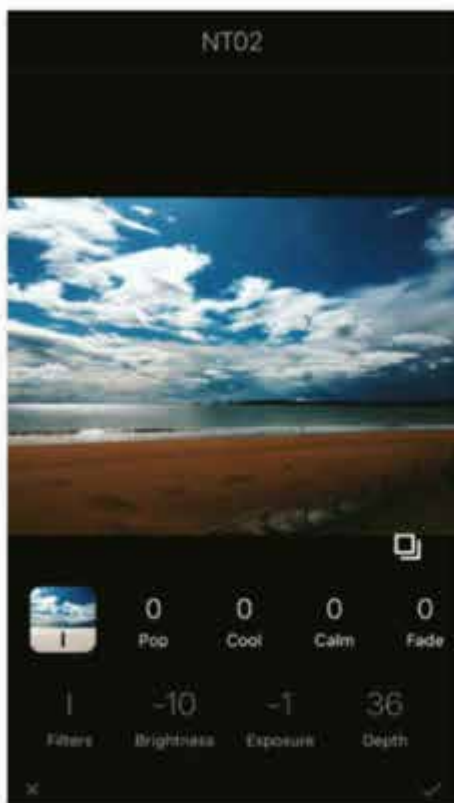
AR MEASUREKIT

- Neat interface
- That it works at all is magical
- Alignment is hilariously awkward
- Measurements aren't reliable

OKAY ■ ■ ■ ■

There's even a tool to measure a person's height. The app has a built-in switch for metric/imperial.





Keep it simple: Quickshot offers a wealth of good-looking presets.

Enlight Quickshot

AI-powered editing in this powerful app

Free From Lightricks, lightricks.com

Made for iPhone **Needs** iOS 10.0 or later

Strobe mode is best learned by following the built-in tutorial.



It was only a matter of time. With the iPhone's camera always improving, artificial intelligence in photography was always hovering over the horizon.

With Quickshot it's finally here – an app that offers to fix your photos before you've even pressed the shutter button.

For example, it uses your iPhone's orientation sensors to deskew photos before you take them, so you always end up with a level horizon. It also offers to adjust things like lighting in real time, and can apply filters before you shoot.

Instagrammers will love the deep selection of presets, but hit the individual settings button and there's even more: shadows, highlights, vibrance, and saturation can be edited individually, as can color temperature and tint, taking Quickshot's editing capabilities way beyond the iPhone's stock arsenal. The final nudge into pro-level spec is the app's ability to batch edit, applying the same fix to multiple images together.

You get other photo modes too. HDR+ is similar to the iPhone's own, yet seems to gather more detail in taxing exposures with extreme highlights and shadows.

The Strobe mode is designed to mimic the effect of a long exposure and multiple flash bursts; the app takes multiple exposures and blends them together, theoretically keeping static elements in one place, while moving subjects appear multiple times as they move across the frame. In practice this is challenging to use, and our first efforts with surfers were less than radical. The more detail there is in the background of your strobe images, the harder using the Strobe mode seemed to be.

Quickshot is an interesting, well-executed concept. DSLR and Lightroom refuseniks will be able to conjure surprisingly good images from the app. Quickshot is subscription-based – \$19.99 unlocks all the app's features forever, or you can opt to pay \$1.99 per month for a year's subscription, or \$9.99 to subscribe month by month. The latter option is bad value, but \$20 for an app that offers near-pro editing capabilities is worth a look.

THE BOTTOM LINE. A flexible and powerful photo editor for your iPhone. **DAVE STEVENSON**

ENLIGHT QUICKSHOT

- ▶ Lots of filters
- ▶ Strobe mode is fascinating
- ▶ Extra options for power users
- ▶ Faintly confusing price model

GREAT ■ ■ ■ ■ ■

iTranslate Converse

Get foreign language translations in real time

Free From iTranslate, itranslate.com

Made for iPhone, Apple Watch **Needs** iOS 10.0 or later



iTranslate has long been the best way to communicate with foreign speakers using a smartphone. The company's latest iPhone app aims for real-time conversation – the holy grail of mobile translation – and for the most part, iTranslate Converse delivers.

The app prompts you to hold your iPhone upside-down so you're speaking directly into the microphone for more accurate results. After selecting a pair of languages from 38 available options, the first person taps and holds on the screen, speaks in their dialect, then lifts their finger to view and listen to the results.

The results aren't always perfect and can occasionally be comical, but this is the closest we've come to translating a bilingual conversation in real time. You have to speak clearly and in short sentences, but the app is otherwise super-easy to use, with a clean, minimalist interface that doesn't get in the way of conversations. The app also retains transcripts of your translated conversations for reference or sharing.

Naturally, there's a price to be paid for software this intuitive and clever. Though the app is free to use, that's only good for up to 300 translations per month – after that you'll have to subscribe for



Free users are limited to 300 translations per month without a subscription.

\$4.99 per month, or \$39.99 annually. The good news is that if you already pay for a subscription on the iTranslate app, you aren't double-taxed – you only have to sign in and start conversing.

THE BOTTOM LINE. Having chats with speakers of other languages just got a whole lot easier. **J.R. BOOKWALTER**

GREAT

Weather Atlas

Rain or shine, the outlook for this app is bright

Free From Contrast Apps, contrast.co

Made for iPhone, iPad **Needs** iOS 10.3 or later



For the last few years, we've relied on the one-two punch of The Weather Channel and Perfect Weather apps to stay up-to-date on current climate conditions. The latter was recently decommissioned in favor of a new app, but the forecast looks like this one's a keeper.

Weather Atlas provides a gorgeous, map-based look at hourly or 10-day conditions around your current location, as well as places you've saved as favorites, all at a glance. By comparison, The Weather Channel forces you to scroll through charts and photos to see more than a few hours ahead.

You can also toggle radar and cloud layers on or off, and get a quick peek from the Lock screen with a Today view widget. Anything more requires a Pro subscription (\$0.49 per month, or \$4.99 annually), but it's worth it for the additional layers, which include humidity and temperature, and the ability to change the app icon to fit your taste.

Eliminating ads is really the best reason to pay up – they're borderline intrusive at times, especially when randomly wedged into the favorites panel. There are a few other limitations: Weather Alert is US-only for now (despite an option to display metric units), and



With a single glance, Weather Atlas offers details for all of your favorite US locales.

lacks animated future radar views or severe weather alerts. But its interface is much less cluttered than competing apps (The Weather Channel – ahem), making this app a breath of fresh air.

THE BOTTOM LINE. The forecast looks sunny for this lean, clean weather app. **J.R. BOOKWALTER**

GREAT

Layton's Mystery Journey

A puzzle game made of riddles

\$15.99 From Level-5, laytonseries.com

Made for iPhone, iPad **Needs** iOS 9.0 or later



The Layton games, usually found on Nintendo's 3DS system, revolve around solving logic-based puzzles as the main character, Professor Layton. Now, for the series' second outing on mobile, the character focus shifts to his daughter, Katrielle, and with it, the puzzles go from requiring logic and thought to being more like riddles.

However, nothing has been lost in style. The developer, Level-5, is known for its beautiful, Ghibli-esque animation, and this game does not disappoint, with animated cutscenes and background art depicting an imagined pastel version of

London. Although the puzzles are a bit of a letdown, the rest of the game – from its wacky plot involving a cult of millionaires, to its music and its aesthetics – is pleasant enough to justify its rather large price, and the iOS version is a lot less costly than the \$40 version for 3DS.

Aside from the main action, there are also minigames that are unlocked as you progress, and although these are few and far between, they offer satisfaction that the puzzles don't quite offer.

The controls are adapted to the iPhone's small layout, but the way of moving the character around can feel fiddly and repetitive from time to time.



Puzzles are occasionally obtuse, sometimes silly, and quite often trick questions.

While this title is a shadow of previous Layton games, by no means is Katrielle's first outing a bad one. It's charming and beautiful, though perhaps not as suited to mobile as it is to Nintendo's consoles.

THE BOTTOM LINE. Cinema-quality animation, let down by disappointing puzzle-style riddles. **KATE GRAY**

GOOD

Pigeon Wings

Only bird brains won't buy this

\$1.99 From Ignacio Schiefelbein, pigeonwingsgame.com

Made for iPad, iPhone, Apple TV **Needs** iOS 8.0 or later



Another rich, evil dude has decided to destroy East Megalopolis, and only Pigeon can stop him. Yes, you read that right: in this deranged, high-speed racer, a bird you thought spent its life making a mess of city squares is the true hero. Take that, ungrateful humans!

Across 50 levels, you zoom along in a tiny pigeon plane, swooping and diving through the city, racing other pigeons. The prize in every tenth level is taking on flying dreadnoughts aiming to instantly turn you into pigeon pie. These sections are brief and intense, and a nice diversion from the long and intense racing bits.

Visually, it's all quite simple, but super-smooth as the pigeons belt along, only occasionally being obliterated by flying mines some idiot has left floating about. Also, humor is laced throughout, notably when the villain taunts the pigeon, who doesn't respond – due to the fact that it's a pigeon.

But the slickest bit is arguably the controls. One button accelerates and the other boosts or shoots your weapons, depending on whether you're battling a boss; your altitude, though, is controlled by tilting your device forward and back. This feels superb, enabling you to quickly react to a wall that's about to slam into



It turns out when pigeons have planes, they belt along at insanely ridiculous speeds.

your beak, and you'll miss this control system when returning to games with more traditional setups. Not that you'll do so until you've cracked the 50th level of this superb high-octane racer.

THE BOTTOM LINE. Perfectly marries the intensity of Alone and the frantic racing of Mario Kart. **CRAIG GRANNELL**

EXCELLENT

Total War – Alexander

Taking over the world is never easy

\$4.99 From Feral Interactive, feralinteractive.com

Made for iPad Needs iOS 10.2 or later



The third Rome: Total War game to march onto the App Store puts you in the sandals of Alexander the not-yet-Great, and asks you to conquer the known world within a time limit. After all, if the real Alexander could do it by the time he was 32, you should be able to in 100 turns.

Apart from the constant fear of running out of time, little else has changed since the series' previous iPad release. The turn-based gameplay has you maneuver your armies and recruit new units to gain strategic advantage on a map. Bump

into an opposing army, or lay siege to a city, and you'll be dropped into the meat of the action – real-time battles in which you control individual regiments and generals in the kind of hacking and slashing that leaves few on the losing side still alive and with all their limbs.

The interface has been intelligently designed for a touchscreen, but without the responsiveness of mouse control, and a view that doesn't zoom out far enough, your micromanagement of fighting units can, sadly, become a stop-start affair.

It's hard, too, as if the plan was to add an extra difficulty



March across the world map to find enemies to fight with.

level to the existing game that somehow got released as a standalone app instead. It doesn't help that instead of the kind of playable tutorial that helps you learn the game's mechanics, you get a series of videos that someone looking for a quick game is unlikely to watch.

That's a shame, as the 100-turn limit and its associated need to attack means this is a game ideally suited to flights, toddler naps, and the dull bits in romantic comedies. Its conflicts are suitably epic, seeing so many units fighting at once is a fine display of recent iPads' power – an Air or mini 2 is the oldest supported – while custom and one-off battles add longevity past the campaign. Sadly, the learning curve is likely to put off many people.

THE BOTTOM LINE. Classic series, classical setting, but way too hard. **IAN EVENDEN**

TOTAL WAR - ALEXANDER

- ▶ Enormous real-time battles
- ▶ Time limit adds speed to the game
- ▶ Sense of triumph when you win
- ▶ Frustratingly difficult

SOLID



ROUNDUP

6 iOS apps for happy holidays

Holidays and apps go together like roast turkey and cranberry sauce. Here are our top app picks

Holiday season is back, but it doesn't have to involve awkward silences, panic buying, or existential planning dread. The six apps we have chosen can help you organize, travel, cook, shop, share out tasks among family

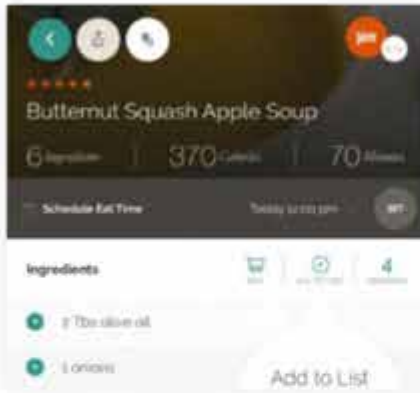
members, and even entertain them. About the only things that these apps can't do is help you to avoid Uncle Jim's rants or top off your wine – those holiday jobs are down to you. **DAVID CHARTIER**



KAYAK
Free For iPhone, iPad, Watch

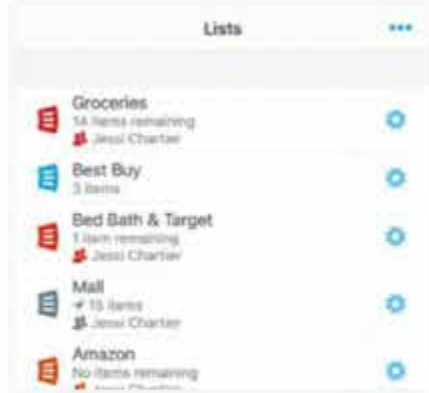
If "holidays" are synonymous with "travel" for you, then Kayak is a must-have app. Versed in flights, hotels, and car rentals, Kayak has great tools for research, comparison, and finalizing your booking. Additionally, it can tell you if it thinks your intended purchase might be cheaper in the future, and will let you know when a price drops.





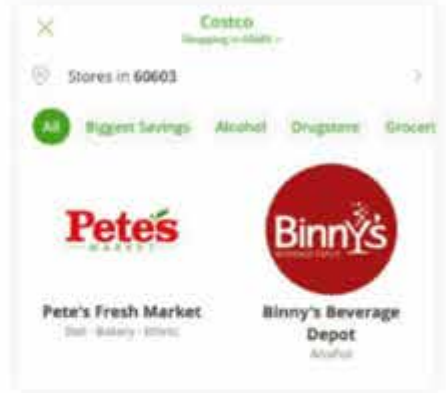
YUMMLY
Free For iPhone, Watch

It's hard enough to get everyday cooking right, let alone big holiday meals. That's where Yummly comes in. Its recipe recommendations include an excellent seasonal section that accounts for your tastes and the ingredients on hand. It also has instructional videos, a built-in shopping list, and even a kitchen tool shop for those essential utensils.



ANYLIST
Free For iPhone, iPad, Watch

To organize holiday grocery and gift shopping, put AnyList on your, uh, list. It's a simple yet powerful way to create lists, collaborate on them with others, add location alerts, and quickly reuse things you buy often. It's just a couple of taps to add previous purchases back onto a list, and a premium option enables you to add photos and customize themes.



INSTACART
Free For iPhone, iPad

Instacart is your holiday savior, whether you're short on errand time for that last-minute grocery run or you just need that one thing you forgot. It's a grocery delivery service that works in and around many US cities. You can shop for items across multiple stores, put them all in one big cart, and place an order for next day or, in many cases, same-day delivery.



PICNIC
Free Made for iPhone

Sticky notes were never a great place for Holiday planning, but it feels right at home on Picnic, a "family agenda" app. It has shared calendars, tasks, shopping lists, and meal planning, so everyone is in-the-know. Optional location sharing tells you if errands are getting done. And there's also a safe, encrypted Info Locker for sharing sensitive details.



TICKET TO RIDE
\$5.99 Made for iPhone, iPad

Ticket to Ride is a well-known classic board game, but nobody needs to bring their boxed version to a family gathering as long as there's an iOS device around. Up to five players of nearly all ages can play, competing to connect cities by rail. You gain points for each connection made, and more for completing the routes you pick from a deck at the start.

Apple WATCH

APPS AND GUIDES TO GET MORE FROM YOUR WATCH

Sleep Watch

Smartly designed app for tracking sleep

\$2.99 From Bodymatter, sleepwatchapp.com

Made For iPhone, Watch **Needs** iOS 9.0 or later

Apple clearly has sleep tracking on its radar after acquiring Beddit earlier this year, but if you want to monitor what's going on while you slumber, there's already an app for that. With one caveat: You'll need to keep Apple Watch strapped to your wrist while you're in bed.

Sleep Watch uses artificial intelligence and machine learning to provide insight into your nocturnal habits, including sleep rhythm tracking to help you get back

to a regular schedule. Most of the heavy lifting takes place on iPhone, so Apple Watch becomes a passive participant used as a tool to collect data while you sleep.

The iPhone app looks great and provides a wealth of automatically recorded data – there's no way to initiate tracking by hand – but you can manually confirm sleep times when you forget to wear your Watch. You can also enable a feature that inquires how rested you feel each morning, which will be included with other logged data.

The watchOS app isn't exactly a slouch, and does a good job of displaying recorded information, including restful sleep, average heart rate, and, more importantly, how much your heart rate dipped while you were snoozing. Some of this data can even be displayed on your preferred Watch face, thanks to the app's support for complications.

There's just one big problem: Many Apple Watch owners have a hard time just getting through the day on a



single charge. If you have to wear it all night to use Sleep Watch, when will you have time to recharge the battery? This isn't really the developer's fault, but it's likely to be an issue for many users.

THE BOTTOM LINE. Monitor your sleep, with no hardware other than your Apple devices necessary. **J. R. BOOKWALTER**

WATCH TIP

Display apps in a list

watchOS 4 lets you view your Watch apps as an alphabetized list. To make this change, press the Digital Crown to display the Home screen, press on the display for a contextual menu,

and tap List View to banish the honeycomb.



SLEEP WATCH

- Automatically logs nightly sleep
- Syncs with Health app
- May disrupt your charging routine
- No manual sleep start/stop controls

GOOD ■■■■ ■

Make It Rain: The Love of Money

An addictive but flawed version of the iOS title

Free From Space Inch, spaceinch.com

Made For iPhone, iPad, Watch **Needs** iOS 8.0 or later



If money is truly the root of all evil, then Make It Rain: The Love of Money is a game even the Devil himself might enjoy. The object is to see

how fast you can swipe and watch the money pile up – you know, “make it rain,” in gangsta parlance.

It's more addictive than you might think, but a whole lot less fun on Apple Watch, where you simply keep tapping ad nauseum to watch the amount of cash increase without so much as the satisfaction of accompanying sound

effects. On the plus side, the animation is smooth, and watchOS responds well to persistent tapping on the screen.

Also a positive, the Watch version isn't riddled with advertising and in-app purchases, which plague the iPhone and iPad versions with a constant reminder that money does indeed make the world go 'round.

THE BOTTOM LINE. The novelty wears off pretty quickly on Watch, especially when there's no sound to accompany the otherwise decent animation. **J.R. BOOKWALTER**

WEAK ■■■■■

RoadiAlert

Check your speed without needing Apple Maps

\$0.99 From Telnus, facebook.com/Telnus

Made For iPhone, Watch **Needs** iOS 10.3 or later



While it's good that Apple Maps now displays the speed limit while driving, that feature doesn't help when driving without navigation

assistance. That's where RoadiAlert comes in. It keeps tabs on how fast you're travelling, and alerts you when you've exceeded the local speed limit.

Conveniently, RoadiAlert also works on Apple Watch, where it makes sense to feel a vibrating alert while driving. The problem is, as the developer notes, the app “may contain wrong speed

limits,” so it's not always a reliable substitute for observing speed signs.

You'll also want to keep your iPhone plugged in when background updates are enabled, since they consume 10 percent of battery life for every hour of travel. You have the option of adding a complication to the watch face to keep tabs on your speed, and there's an alert threshold setting that warns when you're a set amount over the limit.

THE BOTTOM LINE. Handy for drivers with a lead foot, but it hits battery life hard. **J.R. BOOKWALTER**

SOLID ■■■■■

HOW TO

Add a Siri face to your Apple Watch



1 NEW FACE watchOS 4 introduces the Siri watch face, which displays info from various sources. To use it, press on the current face, swipe all the way to the right, and tap the +.



2 ASK SIRI Use the Digital Crown to scroll to the Siri face, then tap to select it. Summon Siri by tapping in the face's top-left corner, or scroll to view personalized info.



3 CUSTOM VIEW To adjust which data sources are used, or to relocate the Siri icon, open the Watch app on iPhone, tap the face under My Faces, and then tweak its settings.



REVIEWS

TOUGH TESTING, TRUSTED RATINGS

iPhone 8

It's good, but is it good enough?

From \$699 From Apple, apple.com

Features 4.7-inch Retina HD display with True Tone and P3 color gamut, A11 Bionic chip, 12MP camera, wireless charging (charging pad not included)

The iPhone 8 is here, and it's more or less exactly what you'd expect a new iPhone to be. Apple has improved the camera, added new display tech, and equipped it with a new, more capable processor.

The new device measures 5.45x2.65x0.29 inches, making it a tiny amount bigger than the iPhone 7. The size makes it easy to hold and use one-handed, which could be the main reason why you would choose to buy this over another smartphone.

The iPhone 8 comes in silver, gold, and space gray. The gold is much truer to real rose gold than the previous "pinkness." The phone also has an IP67 rating for water resistance, so it should survive being immersed in up to three feet of water for up to 30 minutes.

The stereo speakers are now louder, which is a clear improvement, but they still lack bass for audiophiles. They do, however, create a wide soundstage.

You don't get the iPhone X's almost bezel-free display here, as this model's design isn't a massive departure from the iPhone 6 and 7, making it look more dated. The screen is a 4.7-inch, 1334x750-pixel LCD display with IPS tech, with a pixel density of 326ppi. That's the same resolution as iPhones of this screen size have had since the

iPhone 6 made its debut in 2014. That's a surprise, as we were expecting (or at least hoping for) a bump in resolution at this point.

Instead, Apple has focused on improving the screen's brightness and color representation. It has also added its True Tone technology, which monitors the ambient light around the phone and adjusts its output to look more natural under your current lighting conditions.

POWER AND POISE

The aluminum unibody design of previous iPhones has been replaced by a glass back this time, which allows for wireless charging. The glass back feels great - it has a grippy coating that makes it feel secure in your hands. The camera lens still protrudes from the rear casing and, like the iPhone 7, there's no 3.5mm headphone port.

The brain of the iPhone 8 is Apple's new six-core A11 Bionic processor, which is - yes, you guessed it - the most powerful processor Apple has ever put in an iPhone. Tearing through different apps, playing music, watching video, and checking emails are all uninterrupted by the hardware - as is usual for a new phone. What's super-impressive, though, is how





The iPhone 8 is an improvement over its predecessor in many ways, but its design looks rather dated.

THE iPhone 8 AND iPhone 8 PLUS ARE BOTH OVERSHADOWED BY THEIR MORE EXCITING AND EXPENSIVE SIBLING

instantly apps are ready when you switch between different tasks. The added processing power will really become apparent when you're running more intensive apps - those that use ARKit, for example. Hopefully, it'll also stay quick for a lot longer as well.

FAST AND WIRELESS

Apple claims the iPhone 8's battery life is comparable to the iPhone 7, but we found it exceeded our expectations. We're not talking two-day battery life here, but we found it comfortably lasted a day with mixed usage.

There are two new ways to charge this iPhone: wirelessly, and quickly - yes, those are mutually exclusive. The new glass-backed design means that you can set the iPhone 8 down on a wireless charging pad and it'll instantly start sucking up juice. It uses the universal Qi standard as well. It's a nice touch and convenient, but at the moment it's rather slow. The other new power-related capability is "fast charging," which takes the battery to 50 percent in 30 minutes - but you'll need to buy a USB-C charger and a USB-C to Lightning cable for this.

On paper, the rear camera looks unchanged from the iPhone 7; the same 12-megapixel setup as before, but the sensor is now larger and the software is smarter. The result is a big improvement, capable of stunning shots with great detail and contrast.

It's a shame you can't get Apple's dual-camera system from the iPhone 8

Plus on this smaller model; it means you miss out on the Portrait mode and an optical zoom. The 7-megapixel front facing camera, however, is excellent, as is 4K video recording at 60fps.

This all means the iPhone 8 is a great smartphone. The battery life is good, the camera has been improved, and the addition of wireless charging adds convenience. We like the glass-backed design and, thanks to the small screen, it's one of the most ergonomic phones we've used.

There is, of course, one X-shaped elephant in the room. The iPhone 8 and the iPhone 8 Plus are both overshadowed by their more exciting, more expensive sibling, and if you're looking for the latest, greatest iPhone, you're going to want the iPhone X.

Of course, at \$699 the base 64GB iPhone 8 is considerably cheaper than the \$999 iPhone X in that capacity. And that's where the problem with the iPhone 8 lies: it's now the "cheap" iPhone - and perceptions matter.

THE BOTTOM LINE. A great update, with improvements to battery life and camera. It's just difficult to get excited about. **SPENCER HART**

iPhone 8

- Great camera
- Decent battery life
- Large bezels now look dated
- Fast charging costs extra

GREAT ■ ■ ■ ■ ■



iPhone 8 Plus

Apple's flagship phone... for now!

From \$799 From Apple, apple.com

Features 5.5-inch Retina HD display with True Tone and P3 color gamut, A11 Bionic chip, 12MP camera, wireless charging (charging pad not included)

We'll start with the elephant in the room: the new iPhone 8 Plus looks a bit dated compared to its Android rivals, which is a shame. The large bezels look old-fashioned next to the Galaxy Note 8, say, but you have to consider the whole experience.

The iPhone 8 Plus has a brand new chip, the A11 Bionic processor, moving from the four-core configuration of the iPhone 7 Plus's A10 Fusion (two for high performance and two that are energy efficient) to six here, four of them being energy efficient this time. And that makes it easily the fastest phone you can buy today.

The iPhone 8 and 8 Plus are actually quite a departure for Apple in terms of graphics, because they're the first handsets that use Apple's own graphics processor instead of Imagination's PowerVR, which Apple has used over the last decade.

These performance improvements show in general use, and everything is noticeably punchy, even when adding effects to photos or editing them. Anecdotally, it certainly feels faster than an iPhone 7 Plus running iOS 11.

As on the iPhone 8, the 8 Plus's new glass back means you can say hello to

Qi-compatible wireless charging. Apple certainly isn't first with this tech, but it will make it mainstream, and that's great for wireless charging in general.

Battery life is an interesting aspect, because the iPhone 8 Plus's battery is actually lower capacity than the 7 Plus's (2,691 instead of 2,900mAh). However, Apple says that thanks to improvements in efficiency, it should clock up the same battery life. That's about right, too. While intensive use will drain the battery, you can easily get through the day and into the first part of the next. You should be able to get it to last for 24 hours, like the iPhone 7 Plus. An hour's intensive use - streaming media or constant emails, social networking, and chat - will drain it by 8 to 10 percent.

APPLE HAS DOUBLED THE AMOUNT OF STORAGE IN THE ENTRY-LEVEL MODEL



The iPhone 8 Plus is faster and more feature-packed than its predecessor.



There are also many incremental updates, such as the True Tone display tech from the iPad Pro, Bluetooth 5.0, and fast charging (if you have a USB-C charger and USB-C to Lightning cable). There's also a new "neural engine." Inside the iPhone 8 and 8 Plus it's used for augmented reality apps, while in the iPhone X it enables Face ID as well.

True Tone is really welcome, and you can see the slight difference between



the screens when compared with the iPhone 7 Plus. While it will play back Dolby Vision and HDR10 content, just like Apple TV 4K, the iPhone 8 Plus doesn't have an HDR display, unlike many rival handsets (and iPhone X), so you won't see the video in all its glory. While the display is very usable and most people won't care, the fact is the iPhone 8 Plus's 1920x1080-pixel display now lags far behind its rivals.

Apple has also doubled the amount of storage available in the entry-level Plus model, with the iPhone 8 Plus starting at 64GB compared to half that in its predecessor. A 256GB version remains the other capacity option. The iPhone 7 Plus, meanwhile, now comes in just 32GB and 128GB varieties. (The iPhone X shares the iPhone 8 and 8 Plus's storage options, with no 128GB model between them.)

A BETTER CAMERA

The camera has also received some attention with a bunch of upgrades, including the ability to record gorgeous 4K video at 60fps. The results are stunning thanks to a new larger sensor, while the core camera specs are the same as last year's model.

White balance has been significantly improved, though. You can easily see it in more accurate skin tones. Portrait mode has been taken a stage further with Portrait Lighting, enabling you to apply different effects, such as Studio Light or Contour Light.

Optical image stabilization is confined to the wide-angle lens, just like on the iPhone 7 Plus; if you want its benefit on the telephoto lens too, you'll need to step up to the iPhone X.

A lot of these changes won't convince iPhone 7 Plus owners to

upgrade, but anyone with an older model will be keen to make the leap. It's a tiny bit of a shame, therefore, that the design of the iPhone 8 Plus is quite so similar to its forerunner. Note that the dimensions are ever so slightly different from the iPhone 7 Plus, with a tiny bit of extra thickness and weight.

THE BOTTOM LINE. It's a shame the iPhone 8 Plus looks outdated, because otherwise it's great.

DAN GRABHAM, GRAHAM BARLOW

IPHONE 8 PLUS

- ▶ Unbelievably fast
- ▶ Excellent camera
- ▶ Design looks dated
- ▶ No mobile HDR display

AWESOME ■■■■■

Apple Watch Series 3

The smartest smartwatch just got smarter!



From \$329 (GPS-only models), \$399 (GPS + Cellular) From Apple, apple.com

Features Dual-core S3 chip, W2 wireless chip, water resistant, Apple Music streaming (coming soon), 8GB (GPS) or 16GB (GPS + Cellular) storage, Siri speaks

Apple Watch Series 3 follows last year's Series 2 by adding cellular connectivity to an already successful recipe. Apple Watch is the best smartwatch by a country mile, and it was going to require some effort to improve on the Series 2.

There was no visual difference between the first and second versions of Apple Watch, but Apple has decided there needs to be a visual cue to mark out the cellular version of the Series 3, and so it has painted a red dot on the digital crown. Non-cellular versions look exactly like their predecessors.

You pay a perfectly reasonable \$70 premium for cellular connectivity; starting at \$399 versus \$329, though stainless steel and Milanese loop options take the price up to \$599 and \$699 respectively, and beyond that for other style choices.

PHONE-FREE CALLS

So, does the cellular connectivity work well? Yes, but there are a couple of caveats. Siri, messages, and calls from the Watch work really well - audio quality seems improved - and the calling experience isn't much different than if you used the Watch to call with your iPhone; while you can use the

Watch itself to call, things are far better when it's paired with AirPods (which sync automatically if you connect everything to one Apple ID) or another Bluetooth headset you're using for music.

The cellular connectivity kicks in when the Watch is no longer connected to your iPhone - in other words, when it's out of range. Signal strength is shown on Apple Watch's Control Center, which also shows if you're connected to your iPhone or a Wi-Fi network. There's also a new watch face, Explorer, which shows signal strength in the middle of the dial.

The four major carriers (AT&T, Sprint Wireless, T-Mobile, and Verizon Wireless) all support Watch. Your iPhone and Watch share the same number, and the Watch doesn't need a SIM card of its own. Instead, it has an "eSIM," which is automatically activated as part of the setup process in the iPhone's Apple Watch app.

We'd only recommend the cellular option if you regularly go out without your iPhone, which is primarily going to be people exercising with the Watch as a fitness buddy.



WHILE YOU CAN USE THE WATCH TO CALL, THINGS ARE FAR BETTER WHEN IT'S PAIRED WITH AIRPODS



People who know about Apple Watch will recognise you have a cellular model, thanks to the red dot on its Digital Crown.

After all, you're paying a \$70 premium for the Watch, plus a nominal yet ongoing monthly fee to get cellular connectivity on your wrist. Apple Music streaming, which is coming soon, will also be a boon for the cellular model. Regular exercisers will also benefit from the addition of "smart coaching" (basically, prompts), the Heart Rate app and an improved Workout app, but those are watchOS 4 features rather than being specific to the Series 3.

We found battery life was similar to the Series 2; from a charge in the morning it will last all day and evening, if you're not using the GPS feature for exercise. If you are using GPS that way, though, expect around five hours of battery life, although more likely is you'll use it for an hour that way, and need to charge it within a few hours.

Like its predecessor, Apple Watch Series 3 is also available in Nike+ and Hermès versions, while for the Apple Watch Edition a new grey ceramic finish joins the existing white version. Apple has kept the non-waterproof Series 1 around as a budget option.

If you have an Apple Watch Series 2, we wouldn't recommend the upgrade. But if you have an original or Series 1 model, or no Watch at all, then we'd recommend the Series 3. Just think seriously about whether you need cellular connectivity.

THE BOTTOM LINE. Now with cellular, it's still the smartwatch to beat – and by an even greater margin.
DAN GRABHAM

APPLE WATCH SERIES 3

- Ⓛ Cellular connectivity
- Ⓛ Apple Music streaming
- Ⓛ Fast processing
- Ⓛ Expensive

AWESOME █████

Apple TV 4K

Apple's streaming box gets a pixel-count boost

From \$179 From Apple, apple.com

Features 4K and HDR output (Dolby Vision and HDR10 supported), A10X Fusion chip, 802.11ac Wi-Fi with MIMO, Siri Remote, 32GB or 64GB storage

Have you been tempted to invest in a 4K HDR TV recently? If you have, the new Apple TV 4K will be an excellent complementary purchase. This latest model can handle 4K content, with HDR10 and Dolby Vision supported, and, depending on the TV it's connected to, the pictures look sublime, with everything from the interface to the flyover screensavers upgraded to pack in more pixels.

The new box comes in two storage options: 32GB (\$179) and 64GB (\$199). Apple recently raised the size limit for apps permitted on the box to 4GB, so if you're thinking of having this as a micro-console for games, consider scaling up to be safe.

Live sports coverage has also been enhanced, with tailored content delivered to you. Plus, you can see live scores, and be notified of exciting moments in games you might like.

We found Apple TV 4K a touch slow when transitioning between apps or calling up different shows, but the interface was snappy when we started to stream. This lag can be irritating, but it was a minor occurrence overall.

Apple TV 4K as a central hub makes a lot of sense. Not only can it control your HomeKit devices, but the ease with which an iPhone or iPad syncs with Apple TV is impressive.

Screen mirroring is instant, and makes it really easy to share content on the big screen.

DESIGN AND PERFORMANCE

The look of 4K footage is clear and crisp, and 4K HDR is just amazing if you've got the right TV to watch it on. The beautiful contrasts and the sheer quality of the colors on display are mind-blowing. Apple TV 4K is the perfect partner for the latest high-end TVs, with the ability to instantly detect what kind of display is on offer and calibrate the output accordingly.

With Dolby Vision and HDR10 on board, it's a shame that Apple hasn't added Dolby Atmos surround sound too, though Apple reportedly told *The Verge* that support is on the roadmap.

It's great to be able to search Netflix through the service from the Home screen, or to use Siri to dive straight in. Siri isn't able to find and display 4K HDR movies and shows, just plain 4K ones, but it's still useful.

Apple has opened a 4K HDR "room" within its iTunes Movies app to make it easier to discover the

A raised ring has been added around the Menu button so you know you're holding the remote right.



THE BEAUTIFUL CONTRASTS AND THE SHEER QUALITY OF THE COLORS ON DISPLAY ARE MIND-BLOWING

content - and many titles you've previously purchased in 1080p will be automatically upgraded to 4K versions as they become available.

TAKE CONTROL

The Siri Remote offers a good balance between being lightweight and well made - it's comfortable to hold, with a tactile, brushed feel and rounded edges. Its trackpad registers the slightest quiver, and clicks to register a selection. The remote also boasts Siri voice control which is mostly brilliant. Downloading apps, restarting a film, or just flipping to settings are a

The Siri Remote offers a good balance between being lightweight and well made - it's comfortable to hold, with a tactile, brushed feel and rounded edges. Its trackpad registers the slightest quiver, and clicks to register a selection. The remote also boasts Siri voice control which is mostly brilliant. Downloading apps, restarting a film, or just flipping to settings are a

simple press of the Siri button away. That said, Siri isn't always accurate, particularly when entering passwords.

Apple TV 4K is designed to work as a music player and a basic console too. Apple has made a big deal about the new games that are coming to the box, with the A10X Fusion chip from the latest iPad Pro also used here, offering better graphical performance.

The remote's motion control gives Apple TV an instant advantage over other streaming sticks and boxes. While fairly rudimentary, the ability to play tennis games or the fun Beat Sports with actual swings of the hand

is great. Apple TV 4K can also work as a HomeKit hub for remote control and automation of smart home accessories. That alone is a good reason to have it.

However, all this can be found on the previous, non-4K model, which is still on sale for \$149. The functionality is excellent and entertaining, but it can be had for cheaper if you're not bothered about 4K performance. Certainly, if you don't have a 4K HDR TV it's hard to recommend this for its extra power and high-res output.

The interface's speed is still not perfect, but it is better. And the App Store definitely needs more titles, yet more appear every day now.

If you've got any inclination to upgrade to a 4K HDR TV, this model is the obvious choice. It's pricey, but it's slick, works well with an iOS device, and the range of content is good -

although it could be better. We'd love to see more powerful games on offer, and an easier way to access 4K HDR content from a variety of providers, although Amazon Prime Video has been promised for the end of the year.

THE BOTTOM LINE. If you want to stream in 4K, this is a very nice (yet costly) add-on to your TV, and an easy choice if you'll use its broader capabilities. **GARETH BEAVIS**

APPLE TV 4K

- ✦ Dolby Vision and HDR10 support
- ✦ Clean and simple interface
- ✖ No Amazon Prime Video at launch
- ✖ Few benefits for non-4K TV owners

GREAT

iStat Menus 6

Always know what's going on with your Mac

\$22 From Bjango, bjango.com

Needs OS X 10.11 or later



Every time you venture a level deeper, iStat Menus happily offers up more detailed statistics.

The idea of hardware monitoring won't make the average Mac user very excited. But iStat Menus manages to add a glossy sheen to resolutely utilitarian subject matter.

After installing some system components, iStat Menus invites you to turn on its various menus from a user-friendly settings pane. On doing so, little icons appear in your menu bar. Most are basic graphs, showing things like CPU and memory usage, or the battery level in connected Bluetooth devices.

Click a menu and iStat Menus gets gleefully geeky, enabling you to drill down into detailed statistics – and more graphs than are necessary. Need to know if your CPU usage regularly spiked during the past seven days, or if your storage drives are getting full? The information's just a click away.

In fact, as of iStat Menus 6, “no clicks” might be more accurate, because menus can be opened with custom keyboard shortcuts. If you're wedded to the keyboard, this is bliss. And new customization options don't stop there. Now you can reorder menu

sections, and be notified about key events, such as low batteries, a lack of storage, or when daylight savings time is imminent.

As ever, the Time widget remains superb, providing a combination of customizable menu bar clock, drop-down calendar, calendar events, and world clock. Even this has been improved, though. You can now create two-line clocks, which – particularly on Retina displays – enable you to squeeze lots of information into a tiny space, without impacting legibility. Since you can also add multiple clocks, this is perfect when working with people across several time zones.

Version 6 also adds a brand new menu: Weather. This is less polished – there's a small but noticeable delay when the menu's clicked (presumably due to data loading), the visual design is merely OK, there's no imminent rainfall graph, and you need to pay to keep the thing running after six months.

The last of those points is understandable, given that developer Bjango takes a small financial hit for every refresh you make; but Weather needs more refinement to compete with the best of its rivals. For everything else, iStat Menus 6 is in a class of its own.

THE BOTTOM LINE. A strong update to what was already a smart, efficient, and essential macOS utility. **CRAIG GRANNELL**

ISTAT MENUS 6

- ▶ Hugely configurable
- ▶ Great range of menus
- ▶ Usable but deep
- ▶ Weather needs polish

EXCELLENT ■■■■■



Time is a standout menu in the app, providing a ton of configuration options, and optional Calendar integration.



Logitech MX Master 2S

A mouse that's mighty on features

\$100 From Logitech, logitech.com

Features Bluetooth 4.0, Logitech Options and Flow software

This button-laden mouse's appeal lies in its customization options, and the Flow feature that enables you to move the pointer across a screen edge to control another computer. Add a Flow-capable keyboard and its input follows, too.

Logitech lists its Options software as an optional install, but really you need it to unlock the mouse's full potential. It provides ways to tailor button assignments, even to be different in each app. And though the software looks more Windows than Mac, there's good consideration for the Mac with the ability to assign extra actions for when a modifier key is held. Additionally, multiple system features, such as Mission Control, App Exposé, and Notification Center, can be assigned to a single button: hold the gesture button on the side, then move the mouse up, down, left, or right.

Though bulky, the mouse is comfortable in the hand, and its elevated buttons discouraged our habit of resting a wrist on a desk. The drawback is the right-handed design; button customization won't make up for that if you're left-handed.

THE BOTTOM LINE. Highly customizable, and a great choice if you like button-based input that you can tailor to each of your apps. **ALAN STONEBRIDGE**

LOGITECH MX MASTER 2S

- Extensively customizable
- Easily control multiple Macs
- Requires good "muscle memory"
- Right-handed shape

GREAT ■■■■■

REVISITED FOR iOS 11

AirPods

Apple's wireless buds go to 11

\$159 From Apple, apple.com

Features Bluetooth, charging case

Apple's wireless buds have turned around many people's perceptions that it makes horrible-sounding headphones. We previously praised their great sound at 50 percent volume and even close to maximum. Our major criticism was the limited range of double-tap controls you could assign to the buds (Siri, play or pause, or nothing), and that the same action was assigned to both of them.

With iOS 11, two new actions are available - skip to the next or previous track - and different ones can be assigned to each AirPods. We settled on the left one for Siri, and the right for advancing to the next track - invaluable if you listen to many Apple Music playlists, or your own music on shuffle.

The benefit to the overall experience, now that you no longer have to speak or touch your iPhone to control playback, means we've revised our score upward. There's still room to improve on the pauses that can occur when you call upon Siri, and mic performance in loud environments, though.

THE BOTTOM LINE. Great sound, comfortable, and with improved playback control if your device is running iOS 11. **ALAN STONEBRIDGE**

AIRPODS

- Good sound quality
- Comfortable to wear
- Improved control in iOS 11
- Mic suffers in loud spaces

GREAT ■■■■■



R2-D2 App-Enabled Droid

Can this bucket of bolts teach kids to code?

\$180 From Sphero, sphero.com

Features Bluetooth, USB charging, LED lights, integrated speaker

Sphero, the company that makes the spherical robot perennially on display in Apple stores, has made a name for itself with its clever use of gyroscopes and its app-controlled “Star Wars” tie-in robots.

The company’s newest addition, R2-D2, is a small but accurate replica of everyone’s favorite droid (or at least their second favorite – we’re looking at you BB-8!) Standing at 6.7 inches tall, R2-D2 can be directed around your home with Sphero’s companion app for iPhone and iPad using a free control mode, given a patrol command, or be told to follow a set path. The latter two didn’t yield very good results however, and free control is way more fun. You can also tap the preset actions to elicit a little jig or series of bleeps and bloops, which is very satisfying.

Coming in at \$180, R2-D2 might seem quite expensive for a toy with such limited abilities, but dig deeper and things get a lot more interesting. If you have an iPad, there’s a free app called Swift Playgrounds (see bit.ly/swiftply), written by Apple, which aims to make learning to code fun and easy for both children and adults alike.

Sphero has created a Swift Playgrounds template that will guide you through the basics of making R2-D2 move around and play a sound, then tasks you with helping R2-D2 find Obi-Wan Kenobi in the Tatooine desert, evade Stormtroopers, and roam the forbidding Death Star, all using the Swift programming language. The step-by-step nature is great for beginners, and with a little help, the 12-year-old we tested this with was able to perform all the tasks that the playground had set for her.

Having this physical element to programming, something that can be seen and interacted with in the real world, seemed to make all the difference. Failure was met with determination to succeed rather than giving up, and was almost as much fun as getting it right, since R2-D2’s personality comes through in its movements and sounds.

Sphero’s take on R2-D2 is great, and the little droid really looks and sounds just like the movie version. Its playground is well presented and easy to follow. However, Apple also offers a good selection of free playgrounds with which to cut your teeth.

THE BOTTOM LINE. The entertainment value may hold a kid’s attention through the learning experience, yet this programmable R2-D2 is undoubtedly more of a luxury item than an essential. **GARY RICHES**



SPHERO R2-D2

▶ Playgrounds template

▶ Captivating for kids

▶ Makes learning fun

▶ Costly learning aid

GREAT ■ ■ ■ ■ ■







The 5D3's front panel is magnetically attached, and pops off easily for a new disk to be installed.

Drobo 5D3

Flexible storage expansion with a fast, capable connection

\$694 (enclosure only) From Drobo, drobo.com

Features 2x Thunderbolt 3 ports, 1x USB-C (5Gbps) port, mSATA bay for optional SSD cache

Drobo makes attractively flexible storage arrays that enable you to start with just two disks installed, add more on the fly to boost capacity, or swap out a failed or inadequate disk and automatically adjust to the change.

The standout feature of this model is two Thunderbolt 3 ports, which provide plenty of bandwidth for demanding uses such as video production. Our review unit came with five 3.5-inch Toshiba DT Desktop Series disks, from 500GB to 2TB in capacity. This gave us mean average transfer rates of 547.1 and 325.8MB/sec when reading and writing data sequentially, and 180.4 and 124.8MB/sec when reading and writing from random locations. These are good, yet unspectacular. The peak sequential read speed we observed was 1027.9MB/sec, which is still far below Thunderbolt 3's potential; faster hard disks or, ideally, SSDs is one way to a speed boost.

Another is to add an mSATA SSD to the Drobo Accelerator Bay, where it acts as a cache of frequently used data. Using a 64GB Plextor M6M, transferring a 4GB test file to our MacBook Pro went from 7.4 seconds on the first attempt to 2.4 once cached. With a 20GB test file the reduction was slimmer, yet still appreciable: 49.9 seconds down to 30.8.

Thunderbolt 3 also enables you to chain two 4K displays or one 5K display from the second port, keeping expansion options open if your MacBook Pro itself has just two ports.

Drobo Dashboard and its complementary menu bar utility show array and disk status info with clarity. Despite a Kensington lock slot to secure the 5D3, sadly there's no way to lock the bay cover in place.

THE BOTTOM LINE. Drobo's flexibility now works over Thunderbolt 3, but getting best speeds can get costly. **ALAN STONEBRIDGE**

DROBO 5D3

- ▶ Drobo's usual storage expansion flexibility
- ▶ Thunderbolt 3 benefits
- ▶ USB-C port, too
- ▶ Even bare unit's costly

GREAT ★★★★



Apollo Cloud 2 Duo

A much improved personal cloud storage solution

\$449 (8TB) From Promise Technology, promise.com

Needs OS X 10.10 or later, iOS 9.0 or later

Best known for multimedia storage, Promise Technology recently leapt into the consumer space with Apollo Cloud. The first version of this network-attached personal storage drive showed promise (pun intended), but weak software stopped it reaching its full potential.

Apollo Cloud 2 Duo is better in every way. The drive is now available with two 4TB hard disks, which can be configured as a single 8TB volume or a 4TB mirrored array; and drives can be easily swapped in the event of failure. Expanded capacity increases its dimensions to 4.8 x 8.4 x 5.4 inches, but the rounded corners provide an eye-pleasing design that looks great.

Cloud 2 Duo attaches to your network with the included Gigabit Ethernet cable, at which point Apollo Cloud apps for macOS or iOS recognize the device and

walk you through setting it up in just a few minutes. A single device now stores private content for up to 40 people.

The apps used to be clunky, but the latest versions are a huge improvement. Smart albums display content by people or location, although it's a bit hit and miss. Apollo is the first personal cloud device to support iOS 11, so you can drag and drop files between compatible apps.

Although marketed for storing photos and videos in your personal cloud, support for the Files app makes this shine as an iOS storage device. Rather than worry about running out of space on your iPhone or iPad, files can be saved or opened anywhere there's an internet connection.

THE BOTTOM LINE. New hardware and apps make this an ideal personal cloud for iOS device owners. **J.R. BOOKWALTER**

The companion Mac app makes it easy to transfer files and manage users.



APOLLO CLOUD 2 DUO

- ▶ Files app support
- ▶ Slick companion apps
- ▶ Buggy smart albums
- ▶ Camera roll backup changes filename

EXCELLENT ★★★★



Aurora HDR has been given a fresh lick of paint and some new tools for its 2018 incarnation.

Aurora HDR 2018

Enjoyable image editor gets welcome improvements

\$99 From Macphun, aurorahdr.com

Needs OS X 10.10.5 or newer

We last saw Aurora HDR about a year ago, and liked it. It was a powerful piece of software with lots to like for landscape photographers. Automatic blending of multiple exposures was married to some powerful image-editing tools, albeit with a somewhat steep \$99 price.

12 months later and the price is the same, but Aurora HDR 2018 has received a substantial facelift. The engine behind it all has been revamped, but it's the additional image editing tools that impress. Dodge and burn brushes allow a degree of per-pixel editing, and there's a useful history panel that enables you to step backwards through your edits – the steps you've taken are descriptively named, so you can always see where you messed up.

There's also a lens correction tool, in the form of a relatively simple set of sliders for

fixing barrel distortion, chromatic aberration, and vignetting. The tool won't auto-detect your lens and apply a range of presets like Lightroom does, although you can save a group of settings as a preset.

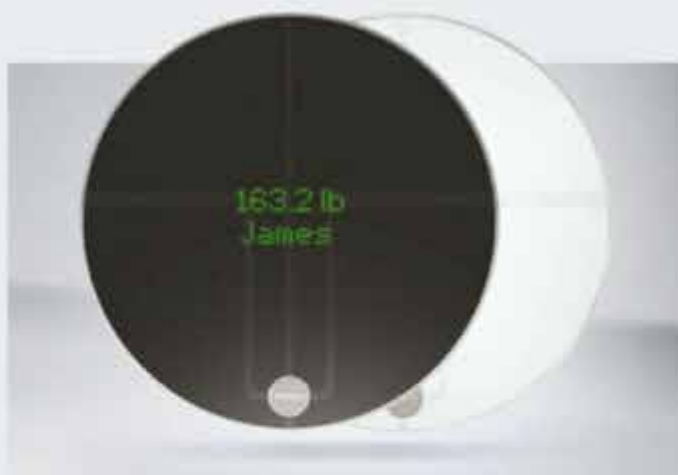
There have been tweaks elsewhere, but "if it ain't broke, don't fix it" applies here nicely. The things we liked about the app's previous version – its appeal to HDR enthusiasts, whether those looking for a quick-hit preset or those who prefer more in-depth editing – remain. Aurora HDR 2018 isn't the only piece of software you'll ever need; Lightroom is still better at organizing a photo library – but it's great value, and ideal for landscape enthusiasts.

THE BOTTOM LINE. Aurora HDR 2018 is still not the total package for general photographers, but a very tempting buy for landscapers. **DAVE STEVENSON**

AURORA HDR 2018

- ▶ Nice set of new tools
- ▶ One-click filters with lots of adjustability
- ▶ Enjoyable to use
- ▶ Merely reasonable value for generalists

GREAT ★★★★



QardioBase 2

Second-gen rechargeable smart scale

\$149.99 From Qardio, getqardio.com

Features Bluetooth 4, USB to Micro-USB cable for recharging

QardioBase 2 is a connected smart scale that tracks your weight, in addition to body mass index, body fat percentage, and other statistics. It's also rechargeable, and supports up to five different users, so the whole family can use the scale to help them reach their individual fitness goals.

Step on the scale in bare feet, and the QardioBase 2 takes measurements and uploads your results to your Qardio account. Haptic feedback lets you know when the scale is done – good because complete readings take about 12 seconds. Green LEDs display your weight and body fat percentage, and the app offers additional stats. Weights can vary slightly, and experts don't put much stock in the other measurements these kinds of scales take. Additional modes are available for users with medical device implants, and pregnant women, as well as feedback in the form of icons.

The companion iOS app walks you through the process of creating a Qardio account, and connecting to your Wi-Fi network. There's also an Apple Watch app to make it even easier to track your progress.

THE BOTTOM LINE. QardioBase 2 integrates well into Apple's universe and is simple to use. **RAY AGUILERA**

QARDIOBASE 2

- 📱 Works with Apple Health
- 📱 Tracks up to five users
- 🔴 Slow to give feedback
- 🔴 Results vary within a range

GREAT ■■■■ ■

Tile Pro Series

A trinket for finding stuff

\$35 From Tile, thetileapp.com

Features Bluetooth, waterproof (4.92 ft, 30 mins)

Tile is a small device you can attach to or place in an item you want to keep track of. Its app can locate the Tile, or make it play a sound. It can even help if you're out of range, by using its network of existing users to anonymously pinpoint your stuff.

The Pro Series' Sport and Style models feature an improved 200-foot range, a louder speaker, and waterproofing. Setup is simple, but our first Tile stalled during activation. The second went fine.

Locating a Tile can be spotty. It worked great at home, but failed to alert us to a Tile we had left in a Chicago café for three hours, despite 8,500 other Tile owners also being present in the city.

The app also insists on always-on access to your iPhone's location, to support a feature that allows your Tile to locate the phone. But even though we chose the option of "When Using the App," we got frequent prompts to choose "Always Allow."

If you often lose things at home or work, then Tile is useful. But its most attractive feature – finding lost stuff in the world – fell short for us.

THE BOTTOM LINE. A promising device with some frustrating flaws. **DAVID CHARTIER**

TILE PRO SERIES

- 📱 Works well near your iPhone
- 🔴 Can be unsuccessful with truly lost items
- 🔴 App seemed iffy during setup
- 🔴 App demands always-on location access

OKAY ■■■ ■■





HOME LIFE

BETTER LIVING THROUGH SMARTER TECHNOLOGY

> GET STARTED WITH...

GET STARTED WITH TV 4K

The Apple TV finally gets 4K – but there's a lot more to it than just pretty pictures

BY CLIFF JOSEPH

W

e've had a long wait for 4K screen support on the Apple TV. You've been able to shoot your own 4K video on an iPhone since the iPhone 6s in 2015, Retina 5K iMacs have enabled you to see all those pixels while editing since 2014, and Netflix launched 4K streaming with "House of Cards" the same year.

But there are good reasons why Apple has held back with 4K support on the Apple TV until now. Apart from anything else, there aren't that many people who actually own 4K television sets, and it's only recently that 4K sales have started to represent a sizeable chunk of the TV market. And while online services, such as Netflix, are providing 4K video streaming, there aren't many people with broadband fast enough to handle it.

TV TIMES

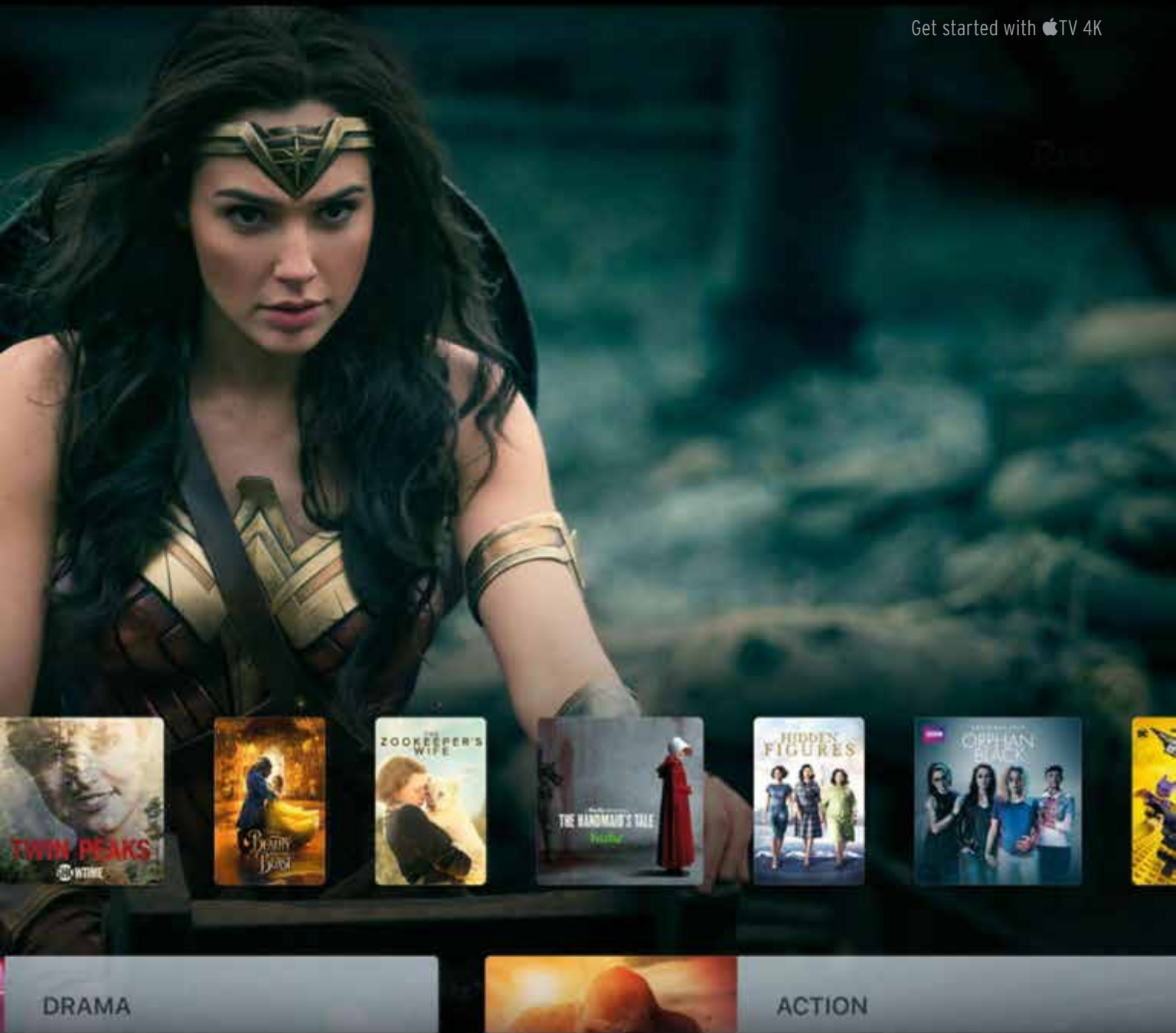
People don't upgrade their televisions every year in the same way that they do with

Up Next



Wonder Woman





Pretty as a picture. 4K support for the Apple TV has been a long time coming, but with the right television you can now be in sofa slouching heaven.



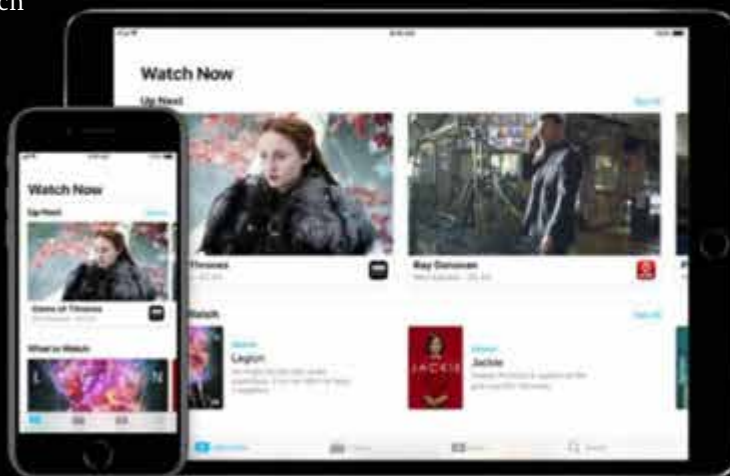
THE NEW APPLE TV OPENS UP ALL KINDS OF POSSIBILITIES FOR HOME ENTERTAINMENT

smartphones, so we're not going to suggest that your life is incomplete without a new 4K TV in your living room. However, you can now buy one for less than the cost of an iPhone, with big-name manufacturers such as Samsung, LG, and Philips offering new sets for well under \$500. One of the cheapest 4K TVs we've seen is TCL's 49-inch 49S405 for \$360 on Amazon, which also supports HDR – high dynamic range, roughly depicted in Apple's picture above – for improved contrast and colors, although you can spend almost \$15,000 (if you have deep pockets) on the 77-inch LG Signature OLED77G7P, a statement TV if ever there was one.

As far as content goes, you can already enjoy 4K TV shows and movies from Netflix with a subscription to its 4K service, which costs \$13.99 per month (compared to \$10.99 for an HD subscription). ESPN and Hulu offer 4K streaming, too. Amazon's Prime Video service is also on its way to Apple TV – although its app had not been released at the time of writing.

Apple is also tempting existing Apple TV owners to buy the new model by offering to upgrade many of their existing HD purchases from the iTunes Store to 4K versions at no extra charge, as soon those versions become available. And, of course, you can at last watch the home videos you've recorded in ultra-high resolution on your iPhone in all their glory by streaming them to Apple TV 4K.

The bad news is that you might need to upgrade your broadband in order to stream 4K video from the internet. Netflix recommends a broadband speed of 25Mbps for 4K – compared to 5Mbps for standard HD. You might need a new router too –



You can't watch 4K content on an iPhone or iPad, but many of your past HD purchases will be upgraded to 4K, free, for viewing on the new Apple TV.

Want to dim the lights for a movie? Just talk to Apple TV (as long as you've got smart lighting set up, of course).

most current 802.11ac routers can handle that sort of speed, but might struggle if you have multiple devices connected to the internet at the same time. If you're streaming 4K video to your Apple TV, Spotify to your iPad, and your kids are playing online using a games console, you might need a newer Wave 2 router that provides features such as MU-MIMO (multi-user, multiple-input, multiple-output), which can help to more efficiently stream data to several devices at once.

There's plenty of choice here, although this might depend on who supplies your broadband. If you're an existing Verizon customer you can upgrade to its Fios Quantum Gateway router, which offers Wi-Fi network bandwidth of up to 800Mbps. That hardware is \$10 per month on rental, or \$150 to buy outright. If you want to replace your current router, recently released Wave 2 models start at around \$130.

HEY SIRI

As well as offering 4K video, the new Apple TV also supports HomeKit, just like the fourth-gen models, enabling it to serve as a hub to automate and remotely control accessories that are compatible with Apple's smart home technology. This also means you'll be able to talk to Siri on your Apple TV to control accessories such as Philips Hue lights or the Netatmo Starck thermostat.

Apple TV 4K also supports AirPlay 2, which opens up new possibilities for beaming sound all around

your home. This upgraded version of Apple's media-streaming technology enables Apple TV, along with Macs and iOS devices, to control multiple speakers around your home. The obvious starting point here is Apple's new HomePod, but other companies will be able to build AirPlay 2 into their own speakers as well, enabling you to create your own customized multiroom audio system using many different types, and brands, of speaker.

That's something we'll come back to once the HomePod arrives, but in the meantime the new Apple TV opens up all sorts of possibilities for home entertainment and smart home automation. It's a real upgrade to Apple's "hobby" device, and might even convince you to go out and buy a new 4K TV – along with a HomePod, naturally.

HomeKit support means you can adjust your heating by talking to Siri on the Apple TV.



FIVE OF THE BEST

Make the most of Apple TV 4K with this great gear >



1

APPLE HOMEPOD
\$349 (TBC)
apple.com

Apple's new speaker has something in common with Apple TV: support for both HomeKit and AirPlay 2. The two devices will make a great combination for handling music and video, as well as controlling smart home devices such as lighting. HomePod is clever enough to adjust its sound to suit its room.



2

NETFLIX
\$13.99/month
netflix.com

Netflix started 4K streaming in 2014 with "House Of Cards," and its current range of 4K films and TV shows is perfect for the new Apple TV. It's pretty good value, as the 4K subscription only costs \$13.99 a month, compared to \$10.99 a month for HD. You'll need fast broadband, though.



3

PHILIPS HUE
From \$70
meethue.com

Apple is going gung-ho on home automation at the moment. Philips pretty much dominates the smart lighting market with its Hue range. It's best to get up and running with one of the Starter Kits, which include a Bridge that's required to work with HomeKit, and two or more white or color light bulbs.



4

LG 49UH6030
\$599
lg.com

This affordable 49-inch 4K TV is equipped with LG's HDR Pro technology for stunning high dynamic range pictures and even includes an upscaler for those times when you want to watch regular HD – and since it's a smart TV you also gets lots of other goodies, including 100 free internet TV channels.

>SMART HOME LIVING

JENNIFER PHIN is tempted by hassle-free wireless charging



YES, IT'S REALLY happening! Wireless charging on the iPhone 8! And iPhone X too, but let's not get carried away, huh, trusty Amex-trapped-in-the-icebox? You're for emergency dental treatment only. And flights in the event of a surprise Hamilton ticket lottery win.

Mind you, owning an iPhone 8 or X with built-in wireless charging has to be better than my current collection of irksome cases, which have to be placed just so on their charging stations. Like that. No, straighten it up a little. A tiny bit left. Yes, that's it! It's charging, see the little light flashing on the back – no, don't pick it up! (I'm also dreadful at street parking and pool.)

Even better, Apple is using industry-standard Qi charging, which for a company that can turn hard-earned adaptor cables into obsolete eBay trinkets in the course of a keynote, is both welcome and impressive.

The only snag is there's nothing wrong with my current iPhone.

It should last at least two more years, maybe more if I stop handing it to my kid when we're stuck in traffic. I'm bemoaning the longevity of my hitherto unimaginably powerful pocket

computer when my husband offers a nerdy distraction.

"While you're waiting for that one to, er, die," he lowers his voice a little, like the phone can hear him, "You could get some of those Qi kits from Ikea and make more charging stations."

Within hours we are at Ikea, the kid asks to "look after" my iPhone in the ball pool – she does this annoyingly well – while I fill a bag with Rällén wireless charger kits. I also purchase a special holesaw and drill bits that look wildly dangerous, but I'm sure with enough enthusiasm and perhaps some safety goggles, I can add a wireless charging station to every piece of wood-effect furniture I own.

I'm ready for you, iPhone 8. Or X. Say, what's that, Mr Amex? It's cold in there? Wait there – I've got just the saw we need.



5

**TP-LINK
ARCHER C2300**

\$150

tp-link.com

If several members of your household are doing things online at the same time, you may want to upgrade your router to a model that better deals with multiple device connections.

This affordable Wave 2 model gives 1625Mbps of bandwidth on the 5GHz band, and 600 on 2.4GHz.



APPLE TV

THE LATEST tvOS APPS AND THE HOTTEST HARDWARE



Fancy taking a virtual culinary journey around the world? OceanView TV will serve it up on a plate for you.

OceanView TV

Travel the world on your sofa

Free



If the heart yearns to travel the high seas but a cruise doesn't reconcile with that empty wallet, it's time to fire up your Apple TV and let the Carnival Corporation whisk you to exotic destinations across the globe. OceanView TV delivers breathtaking vistas, epic adventures, and heartwarming stories to your living room.

Billed as "the first digital streaming channel dedicated to immersive travel experiences," OceanView is packed with more than 100 different destinations in the Ocean Original series, plus two direct-to-digital shows, GO and Local Eyes. Everything is ready to stream on demand whenever the mood strikes.

If you've ever wanted to know what it's like to embark on a Carnival cruise, OceanView TV offers enthusiasts a scenic, port-side view of the world that entertains without playing like a sales pitch. Don't be surprised if you wind up booking a cruise in the near future. **J.R. BOOKWALTER**

Knight 10

Cross-platform jousting

Free



When you decide to name a company Super Happy Fun Time, there's a high level of expectation from customers. Thankfully, Knight 10 lives up to the challenge, providing gamers with an opportunity to reign supreme in frantic, head-to-head multiplayer fights.

The aim is simple: Players don the weapons and armor of their favorite knights, then charge headlong into battle jousting against others. But be sure to block nearby enemies with your shield before they have a chance to jab you!

Also available on iPhone, iPad, and Android, the tvOS edition of Knight 10 is just as energetic and fast-paced as the mobile versions. Using the Siri Remote or an MFi gamepad, discover new special abilities while in the heat of battle, and collect blue gems to increase your weapon strength.

Knight 10 is built to be just as much fun playing offline by yourself as it is surrounded by friends or gamers from around the globe in online matches. And who knows? Between matches, you might even make new acquaintances via online chat. **J.R. BOOKWALTER**



Knight 10 gives you the chance to meet people from all over the world online – and then challenge them to fast-paced and fun jousting battles.

Cooking Panda

Mouthwatering recipes, not TV dinners

Free



The living room might not seem like the best place to pick up new culinary skills, but Cooking Panda is designed to do just that. Featuring mouthwatering recipes in super-crisp HD, original series with celebrity chefs, and step-by-step cooking classes, you may never need a cookbook again.

With categories like Sugar Rush and Sensational Starters, there's always something worth seeing. Shows include Everyday Elevated with MasterChef Sharone Hakman that help transform everyday foods into healthy meals, and Southern Nights with Whitney Miller, which looks at Southern comfort food.



Cooking Panda is packed with delicious recipes. Watching it is a tasty treat too.

Everything here certainly looks tasty and easy to make – and will help banish the dinnertime doldrums. We probably shouldn't have to say this, but there are no classes on cooking real-life pandas to be found here. **J.R. BOOKWALTER**

Midnight Pulp

Scary stuff to keep you up at night

Free (subscription required)



Long before Peter Jackson embarked on bringing J.R.R. Tolkien's fantasy novels to the big screen, he directed a gruesome little oddity called "Bad Taste" – just one of a number of rare cult movie treats to be found lurking on Midnight Pulp, a streaming channel for all things strange.

Featuring hard-to-find horror films, digitally remastered kung fu movies, and exploitation titles from every decade, this is a veritable one-stop shop for Italian classics like "Suspiria," "Black Sunday," and "Phenomena" as much as for B-movies like "Microwave Massacre" that have to be seen to be believed.



Midnight Pulp reminds you that there's a lot more to movies than Hollywood blockbusters.

The streaming quality isn't exactly HD, and you'll have to suffer a few ads here and there, but cult movie fans have the option of paying \$4.99 every month to watch ad-free. New content is added every week. **J.R. BOOKWALTER**

HOME
THEATER

Make the most of
home entertainment



**LG B7A OLED 4K
HDR SMART TV**

\$2,300 • LG.COM

Now that the dream of a 4K Apple TV is finally a reality, now is the time to upgrade your set – and this midrange 55-inch model is a perfect match. Featuring intense color and perfect blacks, there's also Dolby Vision support for your upgraded iTunes purchases. It has smart TV features, too.



AIRPORT EXTREME

\$199 • APPLE.COM

Lost among the fanfare of free HD to 4K movie upgrades from the iTunes Store was the fact Apple TV 4K is equipped with Gigabit Ethernet, which will help push hundreds of millions of pixels per second to your screen. Now is a good time to upgrade your router, and Apple's has 802.11ac Wi-Fi as well, if you prefer no cable.



ASK

Email Mac|Life at ask@maclife.com

TECH SUPPORT & TECHSPLANATIONS

Hot topics right now

Make sure you check out these important support articles on Apple's website to better understand the latest features.

USE BLUETOOTH & WI-FI IN iOS 11'S CONTROL CENTER

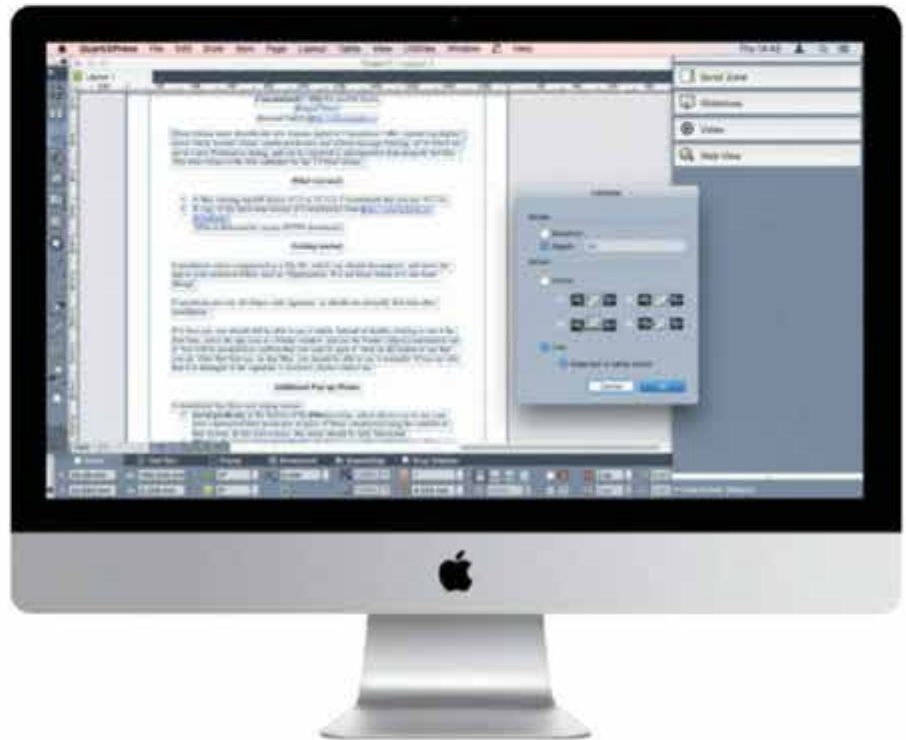
The buttons for these features don't turn off the hardware anymore, but instead disconnect your iPhone or iPad from networks and devices. See bit.ly/ml135ask1.

TOGGLE PORTRAIT EFFECT ON PHOTOS YOU'VE TAKEN

In iOS 11, Portrait mode photos no longer appear as two versions in your library. bit.ly/ml135ask2 explains how to see your photo without the effect.

SWITCH BETWEEN macOS AND WINDOWS IN macOS HIGH SIERRA

On a Mac whose startup disk has been converted to Apple Filing System, you'll need to adjust how you switch between operating systems. See bit.ly/ml135ask3.



> Transfer and edit PDFs

I need to edit some old PDF files that I previously created using Serif's PagePlus X9 program for Windows. Are there any Mac apps that will allow me to edit them as PDF files while preserving their existing fonts?

There are several excellent Mac apps which will edit PDF documents, ranging from PDFpenPro (smilessoftware.com) to the full version of Adobe's Acrobat DC. However, PDF isn't a format which is intended to support much in the way of editing, and you may be better off saving your documents in another format such as EPS, if you can.

Acrobat DC (bit.ly/adbeacro) and other apps enable you to make adjustments to pages in a PDF document, corrections, and to export the elements of each page. You could, for example, copy or save the text and graphics and then assemble them in another

page layout app, such as Pages. However, Acrobat DC and its ilk don't give the same control over the layout and content as apps like PagePlus and Pages do.

If you want to work on fully editable documents made from PDFs, your best option is to use QuarkXPress (quark.com); this app can analyse the contents of a PDF and convert it into text and other objects within a properly editable page layout.

You'll need the same or compatible fonts installed on your Mac, or all the text on every page will have to be reflowed to accommodate the change to a different font.

Get official documentation at support.apple.com | Get help with hardware at support.apple.com/repair

> iMessage issues

When I try to send someone a message using my iPhone, it offers to add handwritten content. Is this just the way that I'm holding it, or is this an unwanted feature? And how do I make sure it stops happening?

When you're composing and sending messages on your iPhone, be careful how you hold it and what you touch; the Messages app's controls are tightly spaced, and it's easy to tap the wrong one.

To start writing your message, hold your iPhone in portrait orientation. When some iPhone models running recent versions of iOS are held in landscape mode, they may assume that you're going to compose an animated handwritten message. iPads can be used in either orientation, and you have to tap the handwriting sign on the keyboard to start a handwritten message.

The left-most of the controls - a camera icon - enables you to add photos and video to your message.

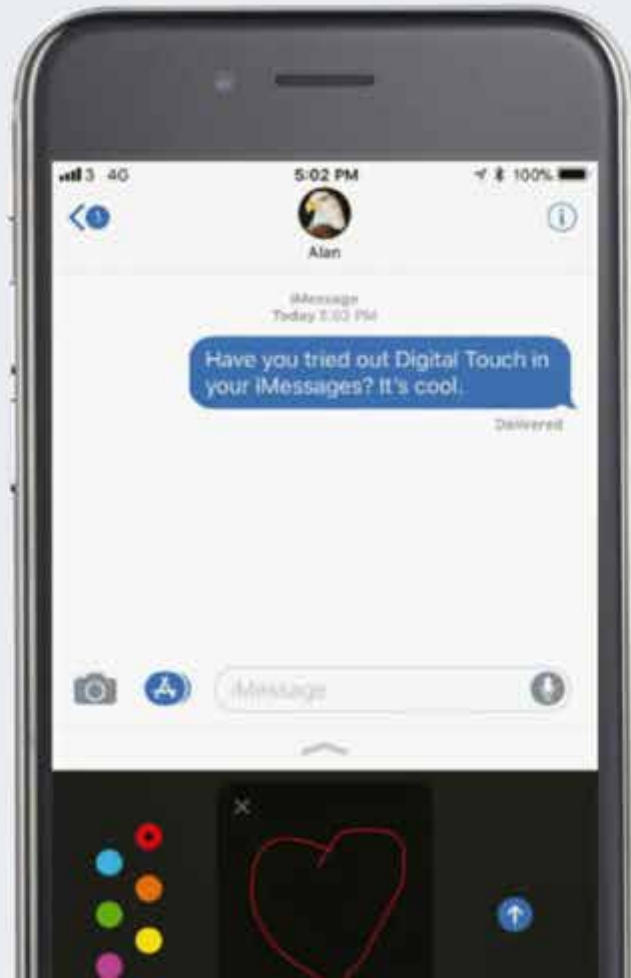
The icon bearing the letter "A" opens a drawer of different apps that you can use in iMessages, including stickers and animated GIFs. Among them, the heart icon with two fingers overlaid is for Digital Touch, which enables you to send a freehand sketch and various animated images. To the right of your message text is a microphone icon, which

you can hold a finger on to record audio messages.

If you inadvertently tap one of these icons, tap in the text box where you would type a message, or tap Cancel. Finally, when you tap the Send button to dispatch your message, don't hold your finger on it, as this is

used to bring up a pane in which you can choose a special animated effect for your message's presentation.

This may seem like a minefield, but once your fingers are used to it, the errors you'll experience when using Messages will be few and far between.



Quick-fire questions & answers

WHY WON'T MY SON'S IPAD GET THE LATEST IOS UPDATE?

Is it jailbroken? If so, remove the jailbreak by connecting to iTunes on your Mac using a USB cable, turning off Find My iPhone, backing it up, and restoring it to Apple's original software. After that you'll need to update it to the latest iOS, before restoring from the backup.

WHERE CAN I VIEW ALL DEVICES THAT ARE USING MY APPLE ID?

In iOS 10.3 or later, open Settings and tap your name at the top of its first page. Scroll down and you'll see a detailed listing of each of your Macs and other devices which are associated with your Apple ID. Tap them to see summary details, such as serial numbers.



> Self-disconnecting printer

Printing to my Epson Stylus DX7400 printer works normally, but its Dock icon and pop-up windows warn that it isn't connected. This started after updating to macOS 10.12.5, with the printer connected to my Mac mini and shared from there. Do you think this is a network problem?

Before worrying about whether there is a network problem, first check the version of the printer driver you're using. If you have Epson's own software, note that it hasn't been updated since November 2016, and will probably be version 2.22. If you have the driver provided by macOS Sierra or later, it should be version 9.0, and is updated through the Mac App Store's Updates tab.

Uninstall any older driver and other Epson software first. Next, in System Preferences' Sharing pane on your Mac mini, turn off Printer Sharing. In the Printers & Scanners pane on both Macs, select the Epson in the left side and click on the - (minus) button below to remove it. Close that pane and open it again, and add the printer back using the + button. That may trigger an update through the Mac App Store to fetch and install the current driver.

Once you've turned Printer Sharing back on, install the printer again on your other Mac, and you should find it remains properly connected. If not, check that your network is all in good order, with all network cables securely inserted.



HOW MANY BLUETOOTH DEVICES CAN I USE?

Classic Bluetooth supports up to seven "slaves" in its Scatternet, but Smart LE technology is more flexible.

Much also depends on the use; although your Mac should pair with up to seven devices, if one is used for audio streaming that will limit the others.

WHICH MOUSE IS BEST FOR ARTHRITIS?

If you're struggling to cope using a regular mouse or trackpad, then look at a trackball substitute.

Apple sells the AbleNet BIGtrack for \$85, which you may be able to try at your local store. Logitech also has wireless models.

> Shift key goes solo

Since updating to macOS 10.12.6, the Shift key on my Apple wireless keyboard misbehaves with other modifier keys in Adobe apps. For example, holding Opt and Shift while trying to draw a square from the center out in Photoshop behaves as if only one key is being held, not both. This applies to both of my keyboards, wireless or cabled. What's wrong?

If the rest of the Sierra update went fine, and you have no other glitches, this probably results from a driver or other extension, and has been reported with Wacom graphics tablets.

A good test would be to disable third-party extensions by starting your Mac in safe mode - see the end of this section for more information and full instructions on Apple's site - but that may make it impossible to use those apps, too. If you can use the apps in safe mode, test to see if the problem occurs there. If it disappears, investigate recently installed drivers.

If necessary, download earlier and later versions of the driver, and see whether either makes any difference. You may find that the previous version does the trick. If you're thinking of upgrading to macOS High Sierra, head to Wacom's driver download page (bit.ly/wacomdrv) for the latest updates.



➤ Hard disks for a Mac Pro

Which 1TB to 2TB external hard disks – both portable and desktop – should I think about buying for my Mac Pro?

There's a huge choice of branded and self-assemble units, but your solution hinges on whether you have a current (Late 2013) Mac Pro, or an older tower model.

The current model gives best performance over Thunderbolt, which greatly limits your choices, and makes it hard and costly to buy a case and fit your own choice of storage. If that's the case then you'd be better off with a Transcend StoreJet 300 for Mac or an equivalent portable model from LaCie, G-Technology, or a similar brand. You have to accept their choice of make of storage inside, though. Those same manufacturers also offer desktop models.

There's an overlap in performance with the best USB 3 drives, depending on the chipset used. If you can, pick a model with both interfaces for future compatibility.

Older Mac Pros can be connected by FireWire 800, which has dwindling support, or, if you install an external drive interface card, eSATA. You could then buy separate cases and storage drives, which would enable you to select your favourite make of disk, such as HGST (formerly Hitachi), in a more durable enterprise spec.

One final point to bear in mind is whether you intend to upgrade to macOS High Sierra, which uses Apple's new APFS file system. This is optimized for use with SSDs; although it should operate on hard drives too, there's no advantage to using it there. If you're likely to move to APFS, look seriously at buying SSDs instead so you'll see the benefit.

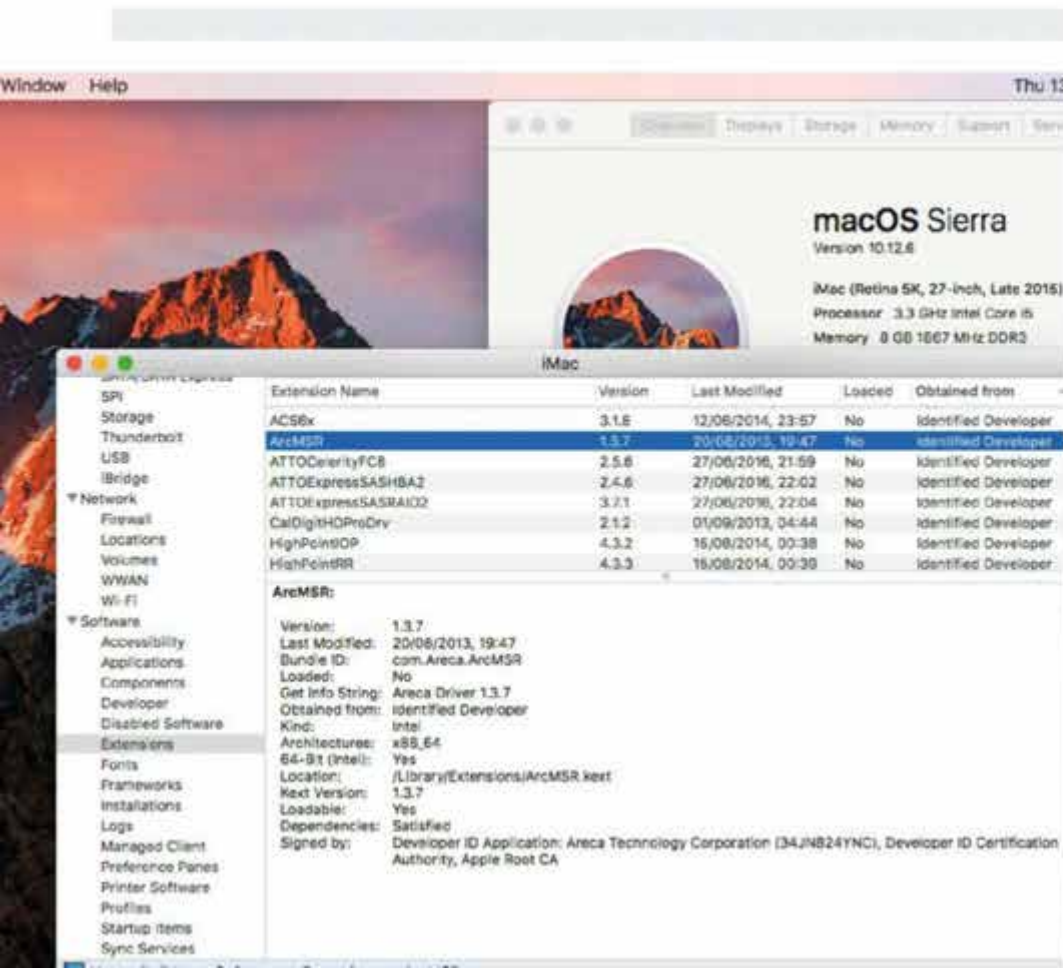


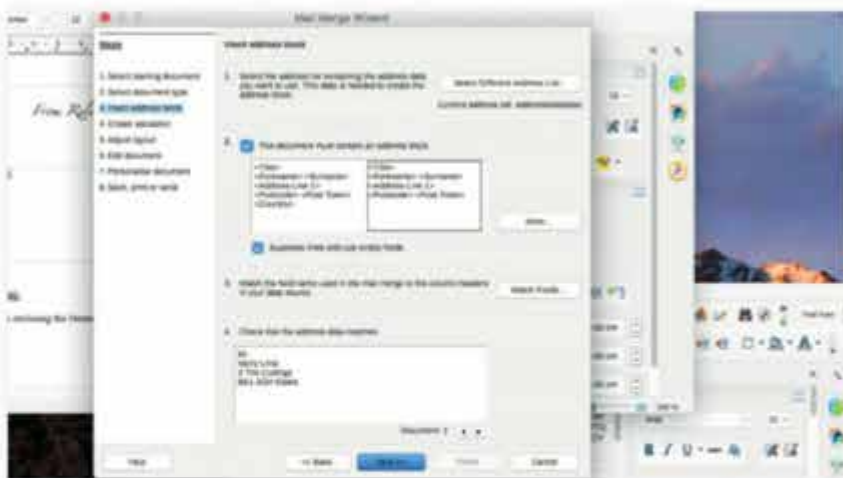
HOW TO GET RID OF UNWANTED HP PRINTER UTILITIES?

If you replace an old HP printer with a different brand, that may leave tools for the previous model hanging around and cluttering up Launchpad. First, trash any alias to them from Applications/Utilities, before removing the folder named "hp" in /Library/Printers.

WHY WON'T MY WI-FI PRINTER USE 5GHZ?

Some older printers don't support the 5GHz Wi-Fi band, or they may be incompatible with new devices operating at that frequency. If a device is having problems, it should automatically switch to 2.4GHz, but you may need to give it a hand by ensuring your Wi-Fi base station is broadcasting at both 2.4GHz and 5GHz.





HOW DO I TRANSFER PHOTOSHOP CC TO A BRAND NEW MAC?

What you need to do is deactivate it on your old Mac first, after which you should be able to install and activate it on the new one. Adobe provides a complete guide to this at bit.ly/newmac_activate.

HOW CAN I OPEN OLD WORD DOCS WHEN THE LATEST WORD WON'T?

Versions of Microsoft Word more recent than the 2011 release refuse to open many old Word documents. You can recover their text contents as an option when opening them, but the best solution is to find a Mac or PC with Word 2011 or earlier and convert them. Word 2011 runs in Sierra, but you may not be able to install it from fresh.



> Mail merge

Can I do a mail merge using the latest version of Pages, or is there another app that I should use instead?

You used to be able to mail merge when printing from Pages, but this has become increasingly difficult – see bit.ly/pgsmerge.

Major office suites normally still feature mail merge. It has always been an important

benefit of Microsoft Office, and Microsoft has a series of excellent tutorials at bit.ly/ml135mailmg1 showing this being performed in Word 2013. The current version of Word for Mac can be used similarly. OpenOffice.org, which is free, also supports mail merge, and there's a tutorial at bit.ly/ml135mailmg2.

The latter suite includes a wizard which steps you through the process, and provides previews. Essentially, you store details of the addressees in a spreadsheet or database, using standardized field names. Those match marked up insertion points in your word processor document: for example, the field "title" might be marked up as <title>. When you perform the merge, copies of the document are generated which substitute personalized information for the markup, in the required number of pages. Address labels should also be produced ready for printing.

If you want to send merged email messages rather than printed letters, two apps from the Mac App Store that you should consider are Mail Merge and SerialMailer. There's a demo version of the former available from its website, while the Lite version of SerialMailer on the Mac App Store will give you a good idea of how it works.

> Printed address book

How can I print my address book from Contacts, with at least six entries on each page?

Unfortunately, Apple's Contacts lacks the flexibility for that, and in macOS Sierra can crash when setting up its print format. FileMaker used to offer Bento, which was ideal for this, but its only solution now is to import your address book into FileMaker Pro, which is a full-scale database, and expensive overkill here.

Most third-party address book apps offer limited support for printing, other than labels and envelopes, and so don't really offer the flexibility you need.

If you want full control, one good solution is to export your whole address book using Exporter for Contacts (\$8.99 from the Mac App Store, bit.ly/expt4), then import it into a spreadsheet of your choice. Although this may seem laborious, when you've been through it once and set up the workflow, you'll find it much easier to use in future.



Essential support articles

Our advice may refer to the following features; check out the support articles linked below for full instructions.

macOS RECOVERY

The Recovery system contains tools to help you look up info online when macOS won't start, and to repair or reinstall the system. Learn more at bit.ly/mlrecovery.

SAFE MODE

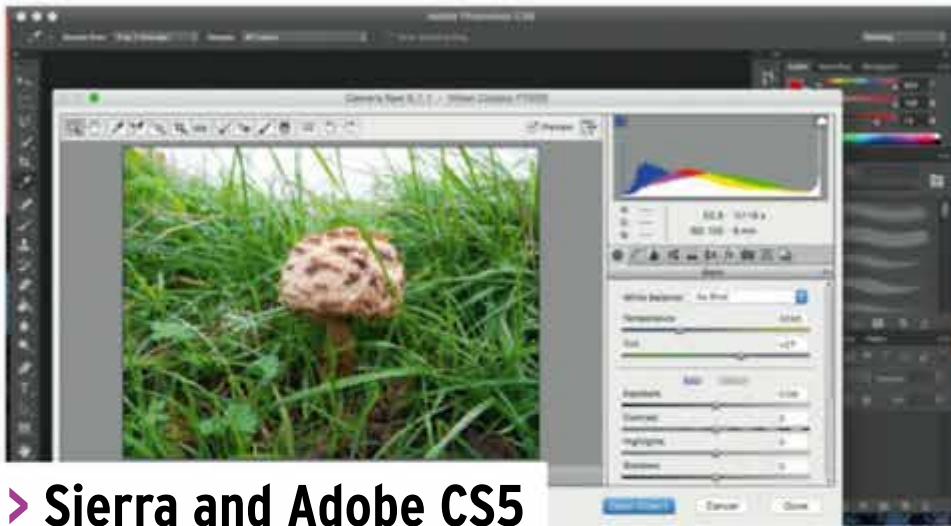
When you start your Mac in safe mode, macOS performs extra checks and stops certain third-party software from running. See how to use it at bit.ly/mlrecovery.

RESET SMC & NVRAM

These features handle low-level functions and store key settings for your Mac, respectively. Resetting them can fix various issues described at bit.ly/mlresetsmc and bit.ly/mlresetnvrnm.

HARDWARE ISSUES

Your Mac includes tools that check for certain hardware issues without going to a Genius Bar. For Macs introduced in June 2013 or later, see bit.ly/mldiag, otherwise see bit.ly/mlahwt.



> Sierra and Adobe CS5

I haven't yet upgraded to macOS Sierra, as I remain concerned that my key apps in Adobe Creative Suite 5 will no longer work properly, and I don't want to subscribe to an Adobe Creative Cloud plan. Would I regret upgrading now?

Our experience with Adobe CS5 and CS6 is that they are largely compatible with Sierra, and you are very unlikely to experience significant problems with them. Previous versions of Creative Suite are increasingly likely to suffer more serious issues, however, and the oldest would prove unusable.

Once you have upgraded, but before you try running any of the CS5 apps, you'll need to download and install Apple's ancient legacy version of Java from bit.ly/legacy_java. Without that, Adobe's CS5 apps won't

run. That old Java will peacefully co-exist with more recent releases, which are supplied separately by Oracle; unfortunately, if you want Java for other purposes, you'll need to install both Apple's and Oracle's versions.

Once the legacy Java is installed, CS5 apps should work normally. Some users report that Dreamweaver, InDesign, and Illustrator sometimes generate crash reports when you quit them, but they otherwise appear fully functional. Photoshop CS5 and CS6, in particular, seem stable and happy in Sierra.

HOW CAN I VIEW AND PRINT A DVI FILE?

DVI is a device-independent file format created for the TeX typesetting system. The free TeXShop app from bit.ly/tex_dvi can open DVI files and convert them to PDF.



ARE THERE ANY MAC HOUSEKEEPING TOOLS THAT I SHOULD USE?

You're very unlikely to need such tools, and even if you do, you should only do so if you're confident that you understand exactly what they do. Manual housekeeping may seem a pain, but it's less likely to trash important documents or make your system unstable.



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MacLife



CREATE

HOW TO DO ANYTHING ON YOUR MAC, IPHONE & IPAD

Cut your first feature with iMovie

Get to grips with movie editing in this quick-start guide

REQUIRES

iMovie 10 for Mac,
some video footage

YOU WILL LEARN

How to cut together
your footage, and add
transitions and titles.

IT WILL TAKE

60 minutes



IF YOU THOUGHT iMovie was for turning your amateur footage into equally amateur faux movie-trailers, think again. Stick to its templates and filters and you'll achieve somewhat hackneyed results. But aim a little higher and you'll find a competent video editor that makes it easy to cut together a great video.

That's not all, though – adding picture overlays, audio and transitions are all simple to do. Even tasks that normally take more advanced (and expensive) editors, such as stabilising a shaky clip, are often little more than a click away.

For this tutorial, we're going to cut together a movie from a selection of clips.

So, shoot a variety of clips of about five seconds each, then import them into Photos – iMovie links up seamlessly with that app, enabling you to import directly from its library. Once your clips are in that app, follow our quick-start guide. Let's get to work! **DAVE STEVENSON**



HOW TO Cut a video together from scratch in iMovie



GENIUS TIP!

You may not want to add the whole of a long clip to the timeline and trim it there. Hold R and drag across it in the top-left pane to select the portion you want to use, then drag that to the timeline.



1 Create a project

In iMovie, select the Projects tab, then Create New > Movie. You'll see your Photos library in the left pane, from which you can drag videos and images to the timeline below. Press Cmd+I to import files from elsewhere.



2 Add some clips

Select Photos Library, then drag a clip from the My Media pane down to the timeline. If you know the order you want clips to run in, Cmd-click those clips to select them, and then drag them all to the timeline together.

QUICK LOOK iMovie's interface explained



A

BROWSE MEDIA

Here you can browse for media that you want to use in your project. You can also add titles, transitions, or audio.

B

VIEW CLIPS

Items from the media source selected to the left are shown here. Click one to preview it in the large space to the right.

C

LIVE PREVIEW

The preview pane shows what's currently selected, or under the pointer, in the top-left pane or the timeline at the bottom.

D

EDITING TOOLS

These control aspects of your clip, from colour correction to playback speed. Blue icons mean a change has been made.

E

THE TIMELINE

This shows the order in which your assembled clips will play, as well as any transitions or titles you've added.



3

Trim a clip

Skim the pointer along the clip you've placed until you find where you want to begin. Click to place a marker, then drag the left-hand edge of the clip to trim its start. The edge will snap to the marker when you reach it.



4

Add another clip

Drag another clip into the timeline and place it after the first one. Press \ (backslash) and your movie will play in full from the beginning – note how the second clip plays immediately after the first one.

?

GENIUS TIP!

To quickly trim your movie to the playhead (indicated by a white marker line), press Opt+/. If the playhead is in the first half, the beginning will be cut, and vice versa.



JARGON BUSTER

Recent iPhones can shoot at up to 4K resolution. If you're shooting a lot of footage, though, or are limited on space, you can record at 1080p instead.

Choose in Settings > Camera > Record Video.



GENIUS TIP!

To split an existing clip in the timeline and insert new footage at that point, drag it from the top-left pane and across the existing clip. When the desired point for the split is shown at the top-right, let go and choose Insert.



5 Add a transition

The jump from one clip to another can be jarring. Click Transitions above the top-left pane, and drag Cross Dissolve between your two clips. Move the playhead just before that point, and press the Spacebar to see the result.



7 Top of the crops

If you find a clip is poorly framed, you can adjust it. Select it in the timeline, click the Crop icon above the top-right pane, then click Crop to Fill. Drag the frame's corners inward to zoom in or out, or drag within to recompose.



9 Add a title

Click Titles above the top-left pane, and select a title style you like. Drag it to the start of your timeline and type a title in the top-right pane. Adjust how long it's shown by dragging its clip's right-hand edge in either direction.



6 Adjust the transition

Sometimes you'll want transitions to take longer, or to be snappier. Double-click the inward-pointing triangles that represent your transition, then enter a new duration in seconds. Here, we've sped things up a bit.



8 Exposure correction

This clip is a little underexposed. To fix it, click the Color Correction tool above the top-right pane, then, just below that, drag the rightmost handle on the left-hand slider to the right to brighten your clip's highlights.



10 Show time

Choose File > Share to upload your film to services such as YouTube. To save it locally, choose File from the menu. For best results, export the movie at the resolution at which you shot it. Select a destination on your Mac.

Make your Mac stay awake

How to install and use Amphetamine to override Energy Saver settings

REQUIRES

OS X 10.8 or later

YOU WILL LEARN

How to override your Mac's sleep settings

IT WILL TAKE

10 minutes



YOUR MAC IS designed to be ultra-energy-efficient. In the latest versions of macOS, by default the display and hard drive will enter a special sleep mode after 10 minutes. There are times, however, when you may want an app to keep running in the background, in which case you won't want your Mac to go to sleep.

The utility Amphetamine, true to its name, will force your Mac to stay awake indefinitely once it's been installed. Follow the guide below to ensure your apps will never be interrupted by the Energy Saver settings. (Get Amphetamine for free from the Mac App Store.)

If you feel that this is too broad an approach, after installation click the tool's menu bar icon and choose Preferences. From here you can choose to launch the utility at login. Use the Trigger tab to activate

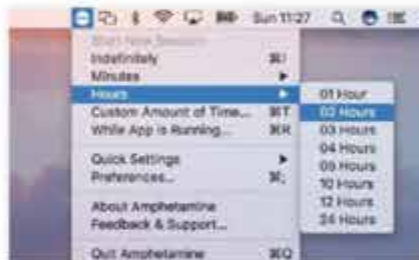
an Amphetamine session only under certain conditions – such as when a certain app is running – or to deactivate the app if your Mac's battery is too low.

Head to Amphetamine's Drive Alive tab to activate your Mac's hard drive indefinitely or only at certain times. You can also activate and deactivate the app using customizable keyboard shortcuts under the Hotkeys tab.

NATE DRAKE



HOW TO Get started with Amphetamine



1 Introduction

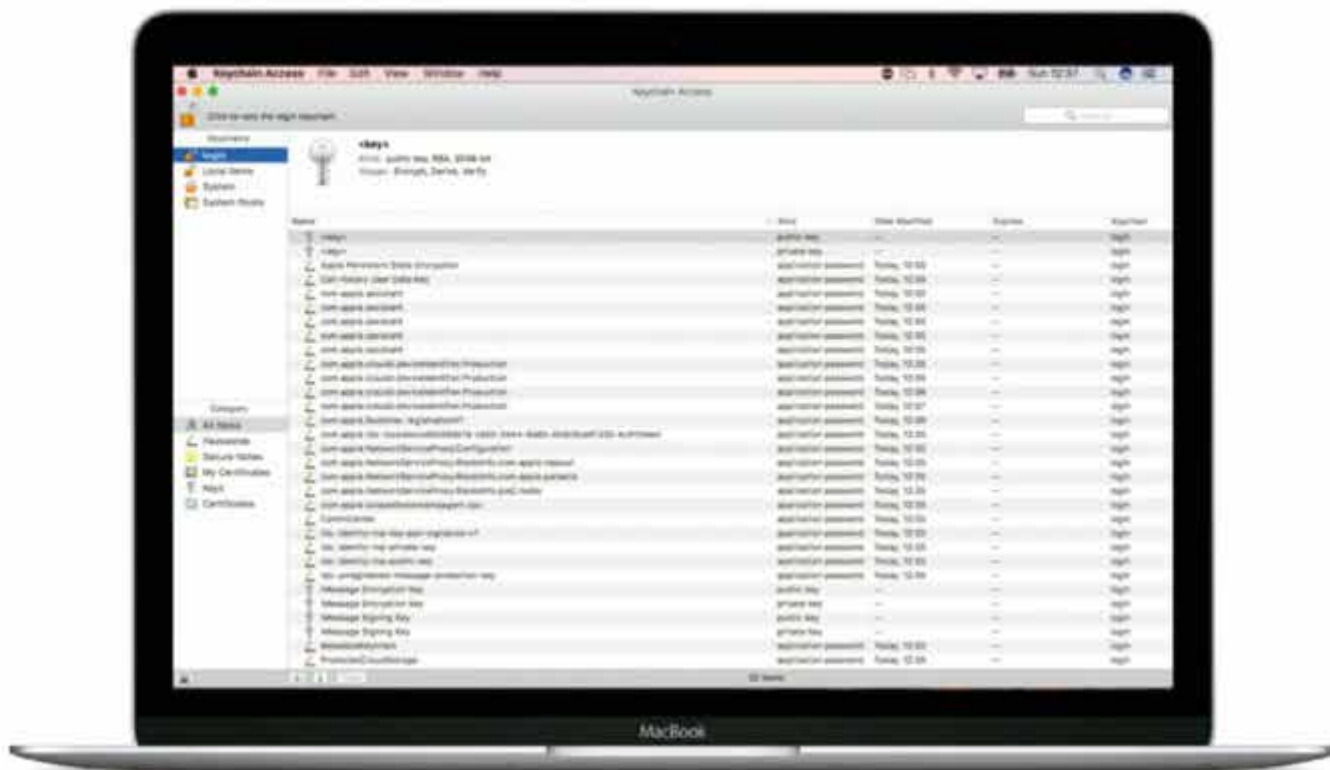
Once you've downloaded the app, click Continue on its opening page, then Next on the following pages to learn more about each of the app's features. At the end, click Finish; the app's icon is then added to the menu bar's right end.

2 Stay awake

Ctrl-click on Amphetamine's menu bar icon to activate the app. By default, this will keep the screen alive indefinitely. Click the icon to see additional options, including the ability to change the duration for which your Mac stays awake.

3 Preferences

Go to Amphetamine > Preferences and turn on "Launch Amphetamine at login" to ensure the utility is always available. Also check "Start a new session at launch" and use the Default Session Duration pop-up to set session length.



Solve keychain conundrums

Learn how to master and fix keychain errors in macOS

REQUIRES
OS X 10.9 or later

YOU WILL LEARN

How to create new keychain data and fix common errors.

IT WILL TAKE

15 minutes



KEYCHAIN ACCESS IS a utility, provided with macOS High Sierra and earlier versions of the system, that manages your passwords and user account information. You can find the utility either by typing “Keychain” in Spotlight, or by browsing to /Applications/Utilities in Finder.

When you first set up your Mac and choose a login password, macOS creates a login keychain to store all the other passwords that you use or create. These entries are encrypted with the password for your user account, so that no one else can access them. (Naturally, each user account has its own login keychain.)

This usually runs perfectly on your Mac, but occasionally the keychain can throw up issues – for instance, if you’re forced to reset your login password because you have forgotten it.

If this happens, the data in your login keychain – which is encrypted with the original password – won’t be accessible. Follow the steps in our walkthrough to create a new login keychain. You will then be able to log in to your apps again, with any passwords that you use or create being stored in the new keychain instead.

If you’re not using iCloud Keychain, then certain apps on your Mac – such as Mail – will use a Local Items keychain, which is also encrypted with your login password. If you see errors related to the Local Items keychain, the entries for individual apps may have become corrupted. Use our walkthrough to remove these entries and try to save the password again in your Local Items keychain. Make sure that you do a full Time Machine backup before making any changes, just in case. **NATE DRAKE**

HOW TO Fix keychain errors



1 macOS wants to...
If you see 'macOS wants to use the "login" keychain' when logging in to your account, try clicking on Update Keychain Password, then entering your login password.



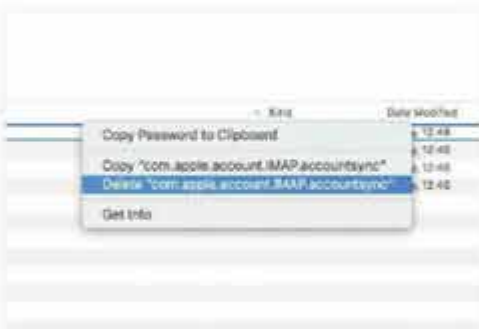
2 Create new keychain
If updating your keychain password doesn't work, then click Create New Keychain. This will create a completely empty keychain containing none of your old passwords.



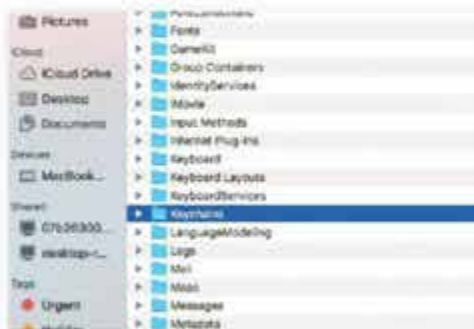
3 Reset default keychain
If you still see login keychain errors, open Keychain Access, go to Keychain Access > Preferences, and then click Reset My Default Keychain to create a new login keychain.



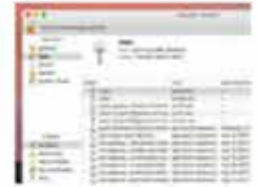
4 Retrieve old passwords
Your Local Items keychain is used for app passwords. Click on an entry, then on the "Show password" checkbox. Enter your login password and the entry's password will appear.



5 Fix broken entries
If macOS tells you an app needs to access the Local Items keychain, close the app, then open Keychain Access. Ctrl-click any relevant Local Items entries and delete them.



6 Reset local items
If you still get keychain errors, go to Finder and click the Go menu. Hold Opt and Library appears in the menu; choose it. Trash the Keychains folder, then restart your Mac.



JARGON BUSTER

A **keychain** is encrypted data that contains secret information such as passwords. Keychain Access is a Mac utility for managing your keychains.



GENIUS TIP

You can store other data in your keychain, such as bank account numbers. Choose File > New Secure Note Item to add them.



Cheat sheet: Recover lost work

Discover the power of Time Machine and Versions to recover your files



YOUR MAC COMES with a built-in backup system called Time Machine that's very easy to use. It only takes a minute

or two to get started with it, and it then backs up any changes made to the files on your Mac roughly once an hour. It's easy to overlook some of this feature's capabilities, so this cheat sheet gives an overview of the various ways to recover changed words, files you've trashed by mistake, or even your whole setup if a big problem occurs or you buy a new Mac.

If you use a portable Mac, you may notice different colored notches in Time Machine's timeline. Bright red represents local snapshots, which are explained opposite. By upgrading to High Sierra, you stand to benefit from an important improvement to when they are created: your MacBook will create a local snapshot immediately before any update to macOS itself is installed, providing a fallback should something go wrong during the update. Read on for more backup and restoration tips. **ALAN STONEBRIDGE**

> BACKING UP AT MULTIPLE LOCATIONS

How to use Time Machine at work and home

If you haven't already set up your first backup disk for use with Time Machine, connect the disk to your Mac; Time Machine will ask whether to use it as a backup disk. If there are files on the drive that you need to keep, copy them elsewhere before responding to the prompt. When you're ready, decide whether to encrypt the disk's contents, then click "Use as Backup Disk" - you may also be asked whether to reformat it.

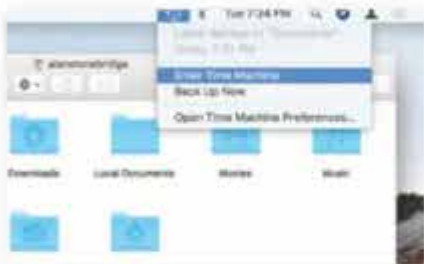
Don't carry your backup disk around with you, even if it's a portable disk. For convenience, Time Machine is engineered to work with multiple disks, so you can back up at several locations. Connect a second backup disk to your Mac, go to Time Machine's preferences, click the option to

select a disk, then choose your secondary backup target from the list that is presented. When asked whether to replace or complement the existing disk, choose Use Both.

When you reconnect a backup disk, Time Machine backs up all changes to your Mac since that particular disk was last used, not just those since the last backup.



HOW TO Make the most of Time Machine and Versions



1 Restore a file/folder

Deleted a file or folder you need? Browse to where it was stored, then click Time Machine's menu bar icon and pick "Enter Time Machine" (or use Spotlight to open the Time Machine app). See the annotation opposite for how to proceed.

2 Restore items

Apps that don't save documents may still enable you to restore items; contacts, or messages in Mail, say. Open the app and enter Time Machine; you'll be able to step back in time through the app's older contents and recover them.

3 Version history

Auto Save and Versions aren't part of Time Machine, but work similarly and complement it. If an app's File menu contains Revert To, it works with these features; as soon as you create a doc in an app, save it to benefit from them.

QUICK LOOK Time Machine's interface



- A**

THE TIMELINE

Move the pointer over the timeline at the bottom right of the screen. Each notch in it represents a backup's date and time, starting with the most recent one at the bottom.

B

THE WINDOW

Click a backup in the timeline and the window in the center (Finder, or the Time Machine-compatible app you were using before entering Time Machine) will change to display its contents.

C

RESTORE OR DELETE

Select one or more files in the Finder window. Click the Restore button to get the selected version back, or click the cog button in the toolbar, then "Delete All Backups of [selection]."

D

LOCAL SNAPSHOTS

If a MacBook is away from its backup disk, Time Machine can use the built-in drive for local snapshots. Bright red backups can be restored right away. Dimmed ones require your backup disk.



- 4 Recover fragments**
- Choose Browse All Versions there; this works much like Time Machine, with one key difference: as well as rolling back to an older version, you can selectively copy from the old version (right side) and paste into the current one (left side).



- 5 Restore the system**
- To restore to an earlier state, hold Opt, power on, and release at the Apple logo. The options you'll be shown include one to restore a backup; further into the process, you select the backup to restore by its time, date, and system version.



- 6 Migration Assistant**
- Already put a clean installation of macOS on your computer? Use Migration Assistant (in /Applications/Utilities) to restore users, files, apps, and settings. Again, you can choose the date and time of a backup, plus what to restore from it.

Be more sociable with Music in iOS 11

Share your favorite songs and discover new tunes to rock your world

REQUIRES

iOS 11, and an Apple Music subscription

YOU WILL LEARN

How to share music with your friends on Apple Music.

IT WILL TAKE

10 minutes

LEARN
iOS
11



MUSIC IS A social experience.

It's why we go to gigs and to clubs, wear tour T-shirts, post music videos on social media, and dance like there's no tomorrow. Yet when listening on an iPhone, music is often a solitary thing, something we experience in the privacy of our own earbuds or AirPods. Wouldn't it be great if we could be social there too?

The good news is that we can be, as Apple Music has social features built right in to the Music app. You can share your playlists with anyone, find your friends, and discover the tunes that are currently rocking their world.

Sharing music is a brilliant experience: chances are that for every song you and your friends already know, there's another they'll love or that you'll go crazy for. Sharing it using the Music app couldn't be simpler. A word of warning, though: you can't share songs that Apple Music doesn't have, even if the service has uploaded them from iTunes on your Mac to your iCloud Music Library, which is for personal listening. **GARY MARSHALL**



HOW TO Set up playlist sharing in Apple Music



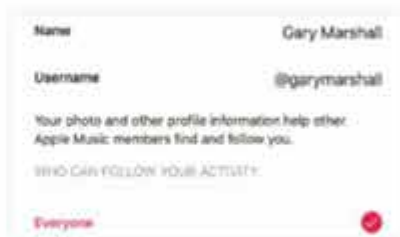
1 Create your profile

Open the Music app and tap the heart-shaped For You icon at the foot of the screen. Now tap on the avatar at the top-right corner of the screen – if you haven't selected a photo this will be a generic head and shoulders icon.



2 Add your info

Choose a username and then tap on the circle to either take a selfie or use a photo from your Photos library. Next, you can choose whether to share your playlists with everyone, or just a select few.



3 See what's shared

Your finished profile will have your photo, username, and sharing settings all visible. If you've set up shared playlists, they'll be listed at the bottom of the page. Now it's time to start sharing some of your playlists.

HOW TO Share your favorite playlists



1 Pick what to share
When you first set up sharing you'll see this screen, which lists all your existing playlists. Put a check mark next to those you want to share. To adjust the order in which they're listed, drag the handles on the right.



2 Share more later
You can share or unshare playlists at any time. Go to Library > Playlists, find the one you want, open it and tap Edit. Flick the "Show on My Profile and in Search" switch to the required position.



3 Share from scratch
You can share playlists at their time of creation too. Go to Library > Playlists > New Playlist, and set the "Show on..." switch here to have the playlist shared as soon as you finish adding songs below and tap Done.

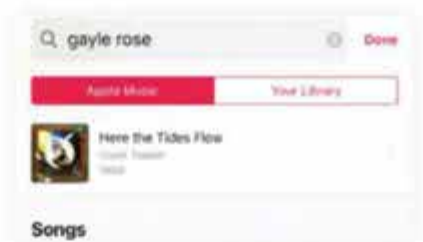
HOW TO Find people to share with



1 See who's sharing
When you first set up sharing, you'll be shown a list of your contacts who also share music through their Apple Music profiles. Tap the Follow button next to one's name to be connected to their shared playlists.



2 Add more friends
Next, you'll be asked if you want to find more friends on Facebook or Instagram. Choose the network you want, and sign in to see friends there who also subscribe to Apple Music. Tap Cancel if you'd rather skip this.



3 Add specific friends
Searching for friends is just like searching for artists: tap Search and then the search bar, ensure Apple Music is selected, then type a friend's name. Tap Search to see matches, if any, listed under the People heading.



> GET CONNECTED

Stay in touch with your favorite acts

Apple Music doesn't just enable you to connect with friends. You can follow your favorite artists and DJs too, thanks to Apple Music Connect. This feature is a bit like Instagram, and is found inside the Music app. You'll find it by scrolling down in the For You page. You can automatically follow artists you listen to, or search for specific names. However, Connect posts vary in value. For every Ellie Goulding posting photos and heartfelt confessions, or Coldplay sharing on-stage shots, there's a Drake posting links to new sounds without comment or context.

Take Live Photos in FaceTime calls

Learn the privacy implications of this feature and how to protect yourself

REQUIRES

iOS 11 or macOS High Sierra, someone to call

YOU WILL LEARN

How to take Live Photos during FaceTime video calls, and how to prevent people taking them of you.

IT WILL TAKE

10 minutes

LEARN
iOS 11
& HIGH
SIERRA



WITH THE RELEASES of iOS 11 and macOS High Sierra, Apple introduced the ability to take Live Photos during FaceTime video calls on iPhone, iPad, and Mac. Live Photos record what happens 1.5 seconds before and 1.5 seconds after you take a picture, allowing the still image in the middle to come alive when you touch it.

By bringing the feature to FaceTime, Apple wants you to be able to capture special moments as they happen on screen when chatting with friends and family. That's all well and good, but what about protecting your privacy?

Apple gives you control over whether Live Photos can be taken during your FaceTime calls. The app also notifies you if a Live Photo is taken, so they can't be shot in secret. In addition, FaceTime strips out audio from Live Photos, so their subjects are seen but not heard. Read on to learn how to use Live Photos during FaceTime video calls on devices running iOS 11 or High Sierra. **TIM HARDWICK**



HOW TO Use FaceTime's Live Photos feature

FACETIME PRIVACY

While Apple has built in privacy protections with regards to Live Photos, be aware there's little you can do to prevent others from taking screenshots or screen recordings of FaceTime video calls.



1 Turn on FaceTime

Check that FaceTime is enabled on your device. On iOS, go to Settings > FaceTime and make sure the switch at the top of the page is on. On a Mac, open the FaceTime app, and sign in with your Apple ID.

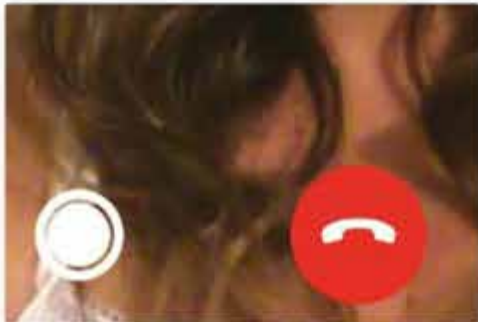


2 Live Photos on iOS

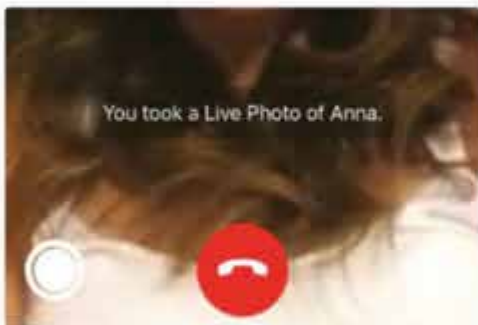
If you want to enable someone to take a Live Photo of you during a FaceTime video call, go to Settings > FaceTime on your iPhone or iPad, then switch on the FaceTime Live Photos option near the bottom of the page.



3 Live Photos on Mac
To do the same on a Mac, open the FaceTime app, then choose FaceTime > Preferences, click the Settings tab, and put a check mark in the box next to "Allow Live Photos to be captured during Video calls."



5 The Camera button
Once the call connects and you can see the other person, tap the screen and look for the shutter button, to the left of the red one. If you don't see that button, the other person needs to enable Live Photos (see step 1).



7 Live Photo notifications
Every time you take a Live Photo during a FaceTime video call, the other person sees a message on their screen that says "A FaceTime Live Photo of you was taken." This ensures Live Photos can't be taken in secret.



4 Make a FaceTime call
To start a FaceTime video call with someone on Mac or iOS, open the FaceTime app, go to its Video tab, and either tap/click a contact in the recent calls list, or choose another contact by using the + button.



6 Take a Live Photo
When you're ready to take a Live Photo, tap the shutter button. The image will be automatically saved in your Photos library, on whichever device you're using. Open the Photos app and look for recently taken photos.



8 Disable Live Photos
Disabling Live Photos in FaceTime is as simple as enabling them. On iOS, open Settings > FaceTime, and toggle the FaceTime Live Photos switch off. Find the equivalent setting on Mac in the FaceTime app's preferences.



FRONT CAMERA

If you want to take a Live Photo of someone who is using an iOS device, make sure they have their front-facing camera activated. If not, get them to tap the Switch Camera button that appears when they tap their own image in the top corner of the screen.



YOUR FACE

When taking a Live Photo during a FaceTime video call, don't worry about your own image in the corner of the screen - this is automatically removed, along with other interface elements, from the resulting Live Photo that you'll find saved in your Photos library.

Get cooking with Paprika

Get organized in the kitchen and the supermarket with this recipe app

REQUIRES

Paprika Recipe Manager

YOU WILL LEARN

How Paprika can help you cook, shop and plan your meals

IT WILL TAKE

15 minutes



IF YOU COOK, you'll love Paprika Recipe Manager. As the name suggests, it's a way to manage your recipes, but it's more than just Notes with a list of ingredients. It can automatically scale recipes for more or fewer guests, and you can use it to set timers, plans meals to cut waste, and even create shopping lists.

The shopping list is smart too, so it organizes ingredients by category, and combines ingredients from multiple recipes – so if you're shopping for three meals that use eggs, it'll calculate the total number of eggs rather than list each recipe's requirements separately.

Where Paprika really excels is in its integration with Safari. As you'll see, it's incredibly easy to grab recipes from your favorite sites, and there are good

importing options too. On the rare occasions Paprika can't import the recipe directly, it has a built-in web browser that you can use to highlight and grab the relevant information.

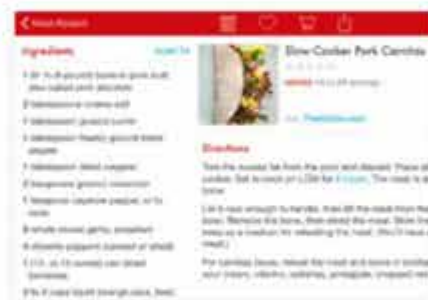
The other great thing about Paprika is its ability to sync to the cloud, and since it's a cross-platform app, you'll also be able to use it on your Mac, Android, Kindle Fire, and Windows devices.

Being able to search for recipes by ingredient is particularly handy, both for reducing waste and inspiring you when you've no idea what to do for dinner.

Paprika isn't free, however. It's \$4.99 on iOS and \$19.99 on the Mac, but that's cheaper than buying cookbooks and you'll turn to it much more often. It's one of those apps you'll wonder how you ever managed without. **GARY MARSHALL**

IT'S ONE OF THOSE APPS YOU'LL WONDER HOW YOU EVER MANAGED WITHOUT

HOW TO Spice up the contents of your kitchen



1 Find a happy place

Paprika can get recipes from pretty much any food and drink website out there. Just visit a site in Safari, find a recipe you want to follow, and tap the Share icon. Find Paprika's icon in the share sheet's middle row and tap it.

2 See it in Paprika

After a few seconds a "Recipe Added" message will appear. If you go to the Paprika app and tap Categories > Most Recent, you'll see the recipe you just added at the top of the list. Paprika even grabs the recipe's photo.

3 Get the goods

Here's a really smart feature: Paprika automatically sorts the recipe into ingredients, directions, nutritional information (where available), and serving sizes. To assign the recipe to a category, tap Uncategorized.



4 Add to your list

Tap the shopping basket icon at the top of the screen and you'll be able to add the recipe's ingredients to your shopping list. Clear the check mark next to ingredients you already have, and then tap Add to include any remaining items.



5 Pick a day

Tap the calendar icon to uncover another cool feature: meal planning. You can assign a recipe to a specific date, and specify whether it's for breakfast, lunch or dinner. This is great for cutting down on waste and getting super-organised!



6 Add your own

You've already seen how Paprika can automatically grab recipes from almost any food site, but it doesn't know about grandma's legendary sausage casserole. No problem: tap the + at the top right to add a recipe from scratch.



7 Use autocorrect

As you type, Paprika offers ingredient suggestions. For example, type "pepper" and you'll get options for pepper flakes, ground pepper, and so on. It takes the hassle out of adding recipes, making the process very quick.

8 Use units

Entering precise quantities? Tap Units and the app's suggestions become measuring units, such as tablespoons, fluid ounces, pounds, and so on. It's worth using these as Paprika relies on them to scale recipe ingredients.

9 Browse in the app

Paprika has its own browser, which is tailored to grabbing third-party recipes: if it can't import a recipe automatically, highlight some text, then tap where it should be added – here we're taking a recipe's title into the app.



10 Say what's what

Work your way through the page, highlighting the bits of text you want to grab and tapping where they belong in the recipe. Here we've done that for ingredients. Repeat for directions and any other info you want to record.

11 Scale up or down

When viewing a recipe, tap "Scale 1x" to adjust the number of servings and have Paprika recalculate quantities for you. If you need to go shopping, it makes sense to do this before adding a recipe's ingredients to your shopping list.

12 Go shopping

Paprika doesn't just create a shopping list for a single recipe; add multiple recipes and it'll combine their ingredients so you don't end up buying too much or too little. The checkboxes next to items help while you're shopping.

Auto-install apps on Apple TV

Discover the easy way to install tvOS versions of your iOS purchases

REQUIRES

Apple TV (4th or 5th generation)

YOU WILL LEARN

How to ensure tvOS versions of apps bought on your iOS device are added to your Apple TV.

IT WILL TAKE

5 minutes



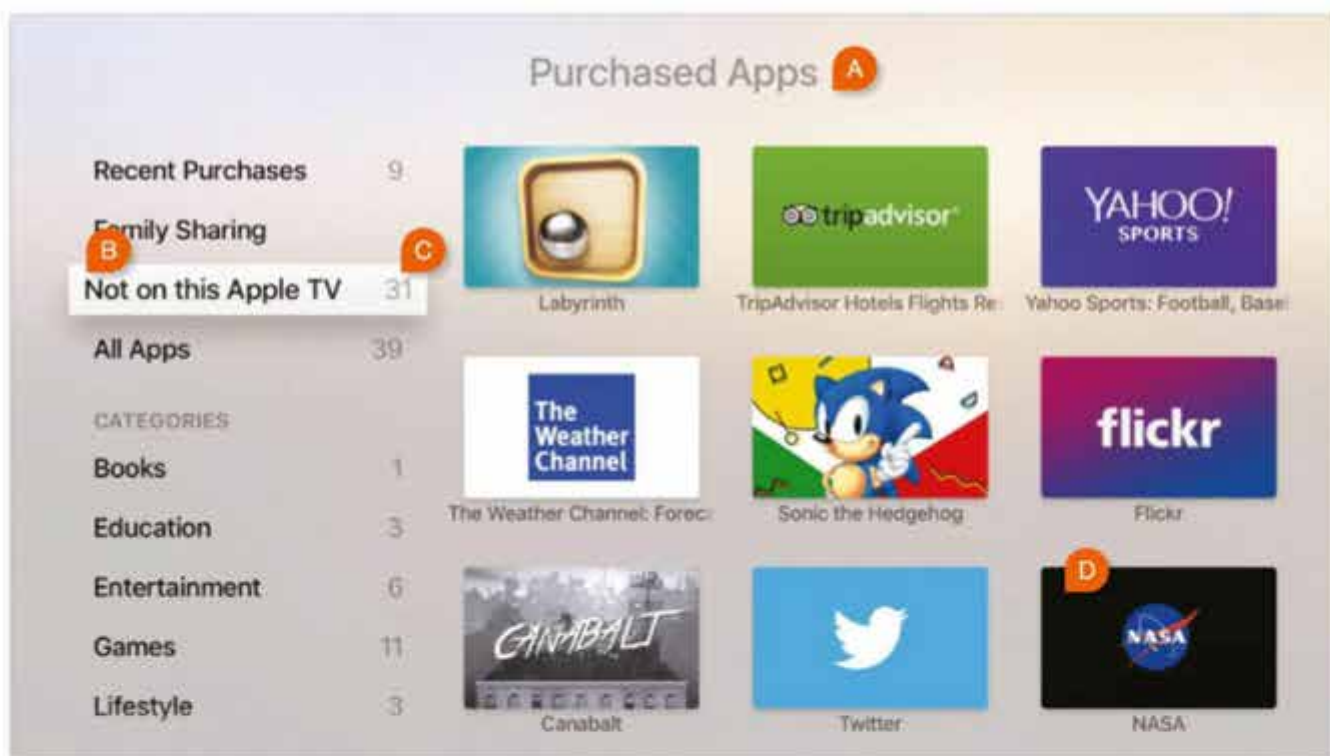
IF YOU OWN a fourth- or fifth-generation Apple TV – the models that come with a Siri Remote – and you install a lot of apps on your iOS devices, then you may already have a large collection of apps you can use on your TV: many iOS apps come with a version for Apple TV, which you may not yet have installed.

There are many reasons for this. Perhaps you didn't realize a tvOS version existed, or maybe you forgot to check.

It could be that you weren't next to your Apple TV at the time you installed an app for iOS, and you simply didn't get around to starting it up and doing it later on.

Luckily help is at hand. Built in to every Apple TV is a function which allows you to automatically install the tvOS version of the apps that you download for your iPad, iPhone, or iPod touch – if it's included for free. You manually install the app once, and your Apple TV will make sure you get the most out of it. **DAVID CROOKES**

QUICK LOOK Past purchases on Apple TV



A

PURCHASED APPS

To reach this page, open the App Store on your Apple TV, swipe up on the Siri Remote's trackpad to put the focus in the top bar, then swipe to Purchased.

B

NOT INSTALLED

All of the iOS apps you've bought which provide a companion tvOS version as part of the purchase are listed under "Not on this Apple TV" on the left.

C

NUMBER OF APPS

The right end of the "Not on this Apple TV" item shows how many of your apps that aren't installed yet have a tvOS version you can install at no extra cost.

D

CLICKING AN APP

Swipe to highlight any app from this section, then click the trackpad to go straight to that app's listing on the App Store, where you'll find an Install button.

HOW TO Auto-install future purchases



1 Go to Settings

If you want to download tvOS versions of apps to your Apple TV when you purchase their iOS versions on your iPhone, iPad, or iPod touch, without having to manually download them, go to Settings > Apps on your Apple TV.



3 Enable auto-install

Highlight “Automatically Install Apps.” By default, this feature – which allows tvOS versions of your iOS app purchases to be automatically installed on your Apple TV – is turned off. Click the trackpad to enable it.



5 Install new iOS apps

Before you install any new app on your iOS device, keep an eye out for the words “Offers Apple TV App” below the screenshots on its App Store page. Click Get or the price button (if it’s a paid-for app) and install it.



2 Enable auto-update

The first setting on that page is “Automatically Update Apps.” By turning this on, you won’t need to manually check for updates, helping you to ensure that all your tvOS apps are always on the latest version.



4 Enter your password

You need to sign in to your Apple ID in order to enable automatic downloads, so enter your password – using either the keyboard or by holding the Siri button and spelling it out – and then choose OK.



6 Auto-install on tvOS

As the app gets on with the task of installing on your iOS device, the tvOS version will automatically install on your Apple TV too, provided that you are signed in to the same Apple ID on both devices, of course.



GENIUS TIP

If the purchase of an iOS app by someone in your Family Sharing group includes a tvOS version, it won’t be auto-installed on your Apple TV. Instead, you’ll have to find the tvOS version under their name in App Store > Purchased and explicitly choose to install it.



TAKE CONTROL

When you turn on “Automatically Install Apps,” only tvOS versions of apps you buy from that point onward will be automatically installed. Your past purchases must be installed manually.

RANDOM APPLE MEMORY

System 7

Adam Banks remembers the Mac OS that dominated the 1990s

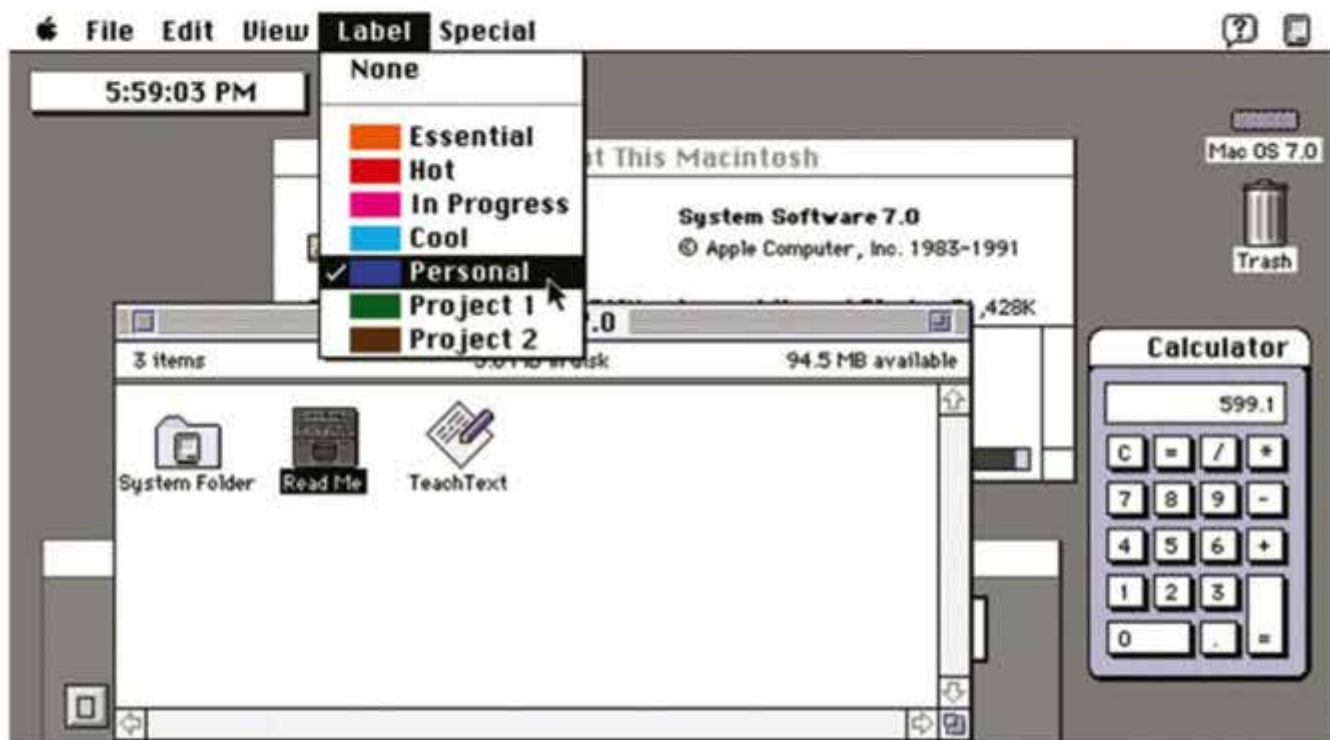


Image courtesy of Marcin Wichary, guidebookgallery.org

RELEASED IN May 1991, System 7 was one of the biggest ever updates to the Macintosh operating system. Codenamed “Big Bang,” it inspired TV adverts touting the Mac as “the world’s easiest and most advanced personal computer.”

It was System 7 that introduced familiar features like full multitasking, file and folder aliases, help bubbles, AppleScript, and TrueType outline fonts. And for the first time the Macintosh user interface showed a touch of color.

Under the hood, some big innovations occurred in networking, helping to make it simple enough to implement in small

offices and even homes; files and folders could easily be shared between Macs and even with Windows PCs. Another major advance was making all applications “32-bit clean,” enabling them to address more than eight megabytes of memory. As a consequence, however, System 7 shipped with a compatibility checker that warned users about existing software that wouldn’t work after upgrading, or could even prevent the Mac starting up.

This and the new operating system’s outrageous requirements – it took up over a megabyte of memory, and made a hard disk obligatory – caused

controversy, but System 7 was rapidly adopted and proved robust enough to carry Apple through the next six years, smoothing the transition to PowerPC processors. It was a success for Apple’s near-term “blue” team, known as the Blue Meanies after the characters in the Beatles’ “Yellow Submarine”; the long-term “pink” team, meanwhile, fell into the OS strategy death spiral that would end in the 1997 purchase of NeXT.

**NEXT
MONTH**

>>> Techniques to
declutter your Mac

>>> Our full review
of iPhone X

>>> 9 amazing things
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